COMMANDERS GUIDEBOOK:

MTF PREPAREDNESS AND RESPONSE TO BIOLOGICAL TERRORISM

Prepared by:

Bureau of Medicine and Surgery
Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives
Program Cell MED-02 and the Integrated Product Team (CBRNE IPT)

December 2001

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PREFACE AND PURPOSE

Preparing for the consequences of a biological agent release in the local community is unpleasant. However, dealing with such consequences in the absence of preparation is more unpleasant. This Commanders Guidebook: Preparedness and Response to Biological Terrorism is intended to stimulate thought and provide a format for planning. Overall, a bio-event is a different scenario than that for which we classically train. Instead of a point-in-time mass casualty, a bio-event is a continuing evolution that incurs hundreds of small casualties as it unfolds.

This Guidebook is not a cookbook. It will not propose definitive answers. Unfamiliar biological agents, mixed biological agents, and combined biological-chemical agents present scenarios with so many permutations that definitive answers are impossible. There are however, things we do know, courses of action to contemplate, scenarios we can plan for, and painful decisions to consider. Hopefully this Guidebook will equip military treatment facilities (MTF) and base installation planners with information, references, scenarios, and treatment and prophylaxis recommendations that will aid in local planning. Appendix A provides guidance on funding considerations.

It should be remembered that this Guide is meant to augment, not replace, BUMED INSTRUCTION 3400.1 Operational Concept for Medical Support and Casualty Management in Chemical and Biological Warfare Environments and NAVMEDCOM INSTRUCTION 3440.4 Activity Disaster Preparedness Plans and Material for Disaster Preparedness Teams.

This guide is a product of BUMED's Chemical, Biological, Radiological, Nuclear, and high-yield Explosives Integrated Product Team (CBRNE IPT), and Navy Medicine subject matter experts. It will be revised and updated annually or as events dictate. BUMED welcomes recommendations on how this Guidebook can be improved. Comments should be addressed to BUMED (Attn: MED-02 CBRNE Program Manager).

BUMED offers a 24 hour notification and consultation line in the event of a biological agent release or bioterrorism attack — the MED-27 Readiness Watch Officer at (202) 445-0500.

*** CBRNE IPT Membership *:**
Chair - Assistant Chief for Operational Medicine and Fleet Support (MED-02)
Vice Chair - Assistant Chief for Healthcare Operations (MED-03)
The Medical Officer of the Marine Corps (TMO)
Head, Medical Resources, Plans and Policy (N931)
Force Surgeon, CINCLANTFLT / USJFCOM
Medical Officer, Chemical Biological Incident Response Force (CBIRF)
Surgeon, Joint Task Force - Civil Support (JTF-CS)

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CHAPTER 1: A SCENARIO

BIOLOGICAL TERRORISM: A SCENARIO

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Incipient Stage (first 6-12 hours)

At morning report, the Director of Nursing Services informs you that the Emergency Room was inundated over the weekend with non-emergent patients, complaining of sore throats, mild coughs and fevers. A number of patients complained about prolonged waiting times, and additional staff had to be called in. Four patients, an elderly couple and two children, required admission Sunday afternoon for worsening respiratory distress after being seen in the ER Saturday. In his turn, the PAO reassures you that there has been nothing unusual reported over the weekend on local or national news stations.

Sentinel Events

One of the great difficulties in timely response to a biological terrorist attack is determining that an attack has occurred. Victims of biological warfare (BW) agents will usually present with non-specific symptoms. Few physicians have treated diseases such as plague, smallpox, or anthrax, and will thus have a low index of suspicion for these diseases.

Ensure that all primary care providers, first responders, and other key staff personnel are educated in the recognition and early management of diseases caused by the most probable biological weapons. See Appendix B for those agents considered most likely to be employed. A highly regarded reference for management of biologic agents is the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) Medical Management of Biological Casualties Handbook. The February 2001 edition is provided in Appendix D. Appendix C gives a listing of available federal government, Navy, and other DoD courses in the medical management of BW agents. These courses may be available in variable formats including, on-line, VTC, CD-ROM and other distance learning options. Please contact BUMED Code MED-05 (Education and Training) for further information (202) 762-3370.

At 1030 the Director of Medical Services appears in your office. Between 0800 and 1000 eight more patients have been admitted with pneumonitis, including the parents of the two children admitted Sunday. The father is even claiming the family dog is sick. Many of those admitted live in or were visiting one of the local Navy housing areas. The elderly couple admitted on Sunday required transfer to the ICU and has worsened in spite of empiric antibiotic therapy. Sputum gram stains have revealed Gram + rods. CXR's lack infiltrates, but appear in several cases to the radiologist to show slightly thickened mediastinal shadows. The high volume of patients in the primary care clinics has continued. The DMS is concerned about a possible outbreak of a virulent bacterial pneumonia.

Medical Surveillance

"Red Flag" warnings of possible biological warfare agent release may include:

- Widened mediastinum on chest film in a previously healthy, non-trauma patient.
- Gram stains uncharacteristic for common bacteriologic organisms such as *S. pneumoniae* or *H. influenzae* suggesting the possibility of plague or anthrax.
- Viral exanthem similar to varicella but in abnormal distribution pattern, suggesting smallpox (variola).
- Epidemics of flu-like illness out of season.
- Clusters of patients arriving from a single locale.
- Reports of animals dying or dead from a single locale.
- Rapidly fatal cases.
- Isolated patients presenting with unusual diagnoses, e.g., pulmonary anthrax, tularemia, plague, etc.

Syndromic surveillance systems can track and monitor presenting complaints to emergency departments, give diagnostic summaries, follow hospital admissions, report on 911 calls and poison center calls, unexplained deaths, and unusual medical events. When baselines are exceeded, MTF commanders should decide if an unusual event has occurred and, if so, initiate an active BW response assessment (refer to Appendix C for resource information from the National Domestic Preparedness Office on how a BW response template for medical surveillance may be of use). Medical surveillance can be effected through the emergency department, primary care providers, infectious disease specialists, veterinarians, and other infection control practitioners. The recent outbreak of West Nile Virus in New York points to the importance that veterinary medicine can play in overall surveillance and disease control

MTF Commander Actions, Incipient Stage:

- Foster an index of suspicion. Time is of the essence in control and containment of biological agent release.

- Practice continuous medical event surveillance.

- Consider the events you are experiencing against the backdrop of prevailing political tensions, world events, local circumstances and local threat condition.

Early Suspicions (12-24 hours)

ER and admissions volumes have continued. By late in the afternoon your respiratory ICU capabilities have become strained. Efforts have been instituted to transfer patients to local civilian facilities as major thoracic surgery cases are planned on tomorrows OR schedule. However local civilian hospitals appear to be strained as well by the pneumonitis outbreak. The DMS confides that considering the gram stain and CXR findings, physicians in the ICU have rumored amongst themselves the possibility of a pulmonary anthrax outbreak. The PAO happens by at this moment, but states the only item in the news is CNN's report that an Iranian extremist group has threatened to "punish" the "Great Satan" (USA) for the mysterious recent death of a prominent cleric .

Notification and Consultation

If the MTF commander suspects a BW incident but has not yet received a confirmatory diagnosis, early notification of the Base installation commander / Responsible Line Commander (RLC) is prudent. Consultation with BUMED and local community public health agencies would also be prudent.

Assistance

MTF commanders can request direct consultation and assistance from BUMED activities with specialized BW detection and response team capabilities. These activities include the Navy Medical Research Center — (301) 319-7400/7100, Navy Environmental Health Center (NEHC) — (757) 462-5404 / 2178, and Navy Environmental Preventive Medicine Units (NEPMU) — see Appendix C for phone numbers.

Epidemiologic Investigation

An MTF epidemiological investigation can determine the distribution of cases and sources of disease outbreak. Such an investigation will provide an analysis of the collected data and support the development of recommendations for containment, prevention, and treatment. Call BUMED, NEHC, or the nearest NEPMU for expertise in conducting an epidemiological investigation.

Regardless of who initiates the epidemiological investigation – whether done internally by the MTF's clinical epidemiologist or done by an outside source (e.g., nearest NEPMU), law enforcement agencies should be notified by the appropriate authorities (security/military police/counterintelligence etc.) and provided with evidentiary data as needed to assist with any criminal investigation efforts. The key to successful epidemiological investigations of potential BW events is a good working relationship among law enforcement agencies, epidemiologists, and the public health department.

Laboratory Confirmation

If medical surveillance suggests that an unusual event is occurring, MTF commanders should have established procedures for confirmation and definitive diagnosis of the unknown.

Preliminary medical diagnosis of suspected biologic samples should be undertaken with samples sent for verification to qualified laboratories at the local, state, DoD, or CDC level. Veterinary diagnosis also should be considered, as applicable, in the verification process. If initial diagnosis indicates a potential BW agent, Centers for Disease Control (CDC), U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID), or other qualified laboratories should validate. Any selected infectious disease lab results that are reported to the local / state public health departments also should be reported in the same manner.

The Rapid Response Information System (RRIS) link allows a provider to enter patient symptoms, and retrieve a WMD agent differential diagnosis. The RRIS link can be found at: http://www.rris.fema.gov/

The Office of Health Safety and Information System provides a number of guidelines, manuals, and other documents concerning laboratory safety, found at http://www.cdc.gov/od/ohs/biosfty/biosfty.htm.

Basic Laboratory Protocols for the Presumptive Identification of *Y. pestis, B. anthracis, Brucella spp.,* and *F. tularensis* are located on the CDC Internet server, at http://www.bt.cdc.gov/

State Public Health Laboratory capabilities may be obtained from the respective States and their Departments of Public Health. A listing of those departments and contact information may be found at: http://www.aphl.org/ or http://www.cdc.gov/ncidod/hip/Bio/13apr99APIC-CDCBioterrorism.pdf

Federal restrictions and requirements for the shipment of infectious agents across state lines may be found at http://www.cdc.gov/od/ohs/biosfty/shipregs.htm.

See http://www.cdc.gov/ncidod/hip/Bio/13apr99APIC-CDCBioterrorism.pdf for specific enhanced infection control recommendations.

Recommendations for agent identification procedures for selected BW agents are found in the USAMRIID Blue Book provided in Appendix D. Local and county labs typically offer identification, confirmation, and susceptibility testing. State and other large facility laboratories may offer testing, including some labs with advanced state-of-the art molecular typing technologies. The most capable labs are found at CDC or USAMRIID. CDC and USAMRIID have the only CDC level D and Bio Safety Level 3 & 4 labs in the U.S. with special surge capacity and advanced molecular typing techniques. The CDC laboratories can be reached at 404-639-2888 and the USAMRIID laboratory can be reached at 888-872-7443.

CDC Laboratory Response Network

CDC has recently developed a Laboratory Response Network (LRN) for coordination of bioterrorism preparedness and response efforts. All Navy MTFs are invited to participate in the LRN and integrate into the bioterrorism preparedness and response system. MTFs can take advantage of CDC training programs and may attain CDC level A laboratory status. Level laboratories rapidly recognize, culture, determine drug susceptibilities, and forward suspected agents to a level B laboratory for further work up.

Functional Levels of the Laboratory Response Network for Bioterrorism

Level A: Early detection of intentional dissemination of biological agents — Level A laboratories will be public health and hospital laboratories with low-level biosafety facilities. Level A laboratories will use clinical data and standard microbiological tests to decide which specimens and isolates should be forwarded to higher level biocontainment laboratories. Level A laboratory staff will be trained in the safe collection, packaging, labeling, and shipping of samples that might contain dangerous pathogens.

Level B: Core capacity for agent isolation and presumptive-level testing of suspect specimens — Level B laboratories will be state and local public health agency laboratories that can test for specific agents and forward organisms or specimens to higher level biocontainment laboratories. Level B laboratories will minimize false positives and protect Level C laboratories from overload. Ultimately, Level B laboratories will maintain capacity to perform confirmatory testing and characterize drug susceptibility.

Level C: Advanced capacity for rapid identification — Level C laboratories, which could be located at state health agencies, academic research centers, or federal facilities, will perform advanced and specialized testing. Ultimately, Level C laboratories will have the capacity to perform toxicity testing and employ advanced diagnostic technologies (e.g., nucleic acid amplification and molecular fingerprinting). Level C laboratories will participate in the evaluation of new tests and reagents and determine which assays could be transferred to Level B laboratories.

Level D: Highest level containment and expertise in the diagnosis of rare and dangerous biological agents — Level D laboratories will be specialized federal laboratories with unique experience in diagnosis of rare diseases (e.g., smallpox and Ebola). Level D laboratories also will develop or evaluate new tests and methods and have the resources to maintain a strain bank of biological agents. Level D laboratories will maintain the highest biocontainment facilities and will be able to conduct all tests performed in Level A, B, and C laboratories, as well as additional confirmatory testing and characterization, as needed. They will also have the capacity to detect genetically engineered agents.

Biological Agents Fact Sheet

It will not always be practicable to await diagnostic laboratory confirmation from either CDC or USAMRIID. Appendix B includes a syndrome-based description that should assist MTF commanders. The CDC Media Fact Sheets are provided for local use, as desired. They may be modified to fit local population and PAO use. Updates may be obtained at http://www.cdc.gov/publications.htm

MTF Commander Actions, Day 1:

- Prosecute suspicions early. The earlier that epidemiological and laboratory confirmational studies are undertaken, the more useful their results.

EPIDEMIOLOGIC Response Activities:
- Case definition (detailed description of disease and pattern)
- Track distribution of cases, persons, place, and time
- Define population at risk and map initial victim locations
- Identify source, mode of transmission, and cause
- Analyze clinical and patient information, diagnosis, and prognosis
- Provide decision support of containment, prevention, and treatment measures

MEDICAL Response Activities:
- Undertake local clinical lab tests
- Obtain initial diagnosis of illness
- Consult with BUMED to coordinate specimen packaging and transport
- Obtain confirmatory diagnosis and identification of BW agent
- Obtain veterinary diagnosis (if applicable)

- Notification of the Base installation commander / RLC that confirmational laboratory studies have been ordered should be immediate. Early notification of the BUMED Readiness Division Watch Officer is requested (202) 445-0500. Alternative notification of BUMED can be made to the OOD cell phone at (202) 316-0932 and/or COD cell phone (202) 316-0933 and to the Navy Environmental Health Center (757) 462-5500.

- MTF Commanders should be familiar with the precepts outlined in BUMEDINST 3400.1, Operational Concept for Medical Support and Casualty Management in Chemical and Biological Warfare Environments and NAVMEDCOMINST 3440.4, Activity Disaster Preparedness Plans For Disaster Preparedness Teams.

Consult with BUMED or NEHC prior to specimen packaging and transport. Submissions require chain of custody documentation and must conform to local, state, CDC and FBI regulations. The USAMRIID "blue book" Appendix D is provided as a reference for specimen collection, preparation and transport.

Confirmation (24-48 hours)

Day Two: You awaken to media reports that during the night six to eighteen patients have died in local hospitals from what is being variably reported as "an unknown epidemic" to "an attack with chemical weapons." Major highways leaving the city are crowded. At morning report you learn that two of the four patients admitted Sunday died overnight. More deaths are expected today. ER volume continues to mushroom, and the spectrum of illness has broadened as an increasing number of otherwise asymptomatic anxious patients are presenting for screening. Several hospital staff members have been admitted. Empiric antibiotic regimens in the ICU have been altered to ciprofloxicin and doxycycline, and pharmacy stocks of these drugs are thinning. General inpatient and ICU beds have reached maximum capacity. Patients are being treated in the hallways. The DNS reports that roughly a third of the night shift failed to report or left work early. Absenteeism from this morning's day shift is heavier than usual.

Protection of Mission Capability

The first and foremost, MTF commanders need to maintain mission capability and protect the MTF staff and patients. Relevant considerations include universal contagion precautions (gloves, gowns, masks, eye protection, etc.), individual protective equipment (IPE), facility protection, and security. Recommendations for specific actions vary with the biological agent encountered, however an overview of IPE, collective protection, and decontamination can be found in Chapter 3 and in the publication USAMRIID Medical Management of Biological Casualties Handbook (the "blue book") found in Appendix D.

Assistance

MTF commanders should be prepared to function independent of state or federal response assistance agencies for at least the first 24 hours following discovery of a bioterrorism event. Assistance from various DoD service component deployable platforms may be forthcoming, and considerations as to possible site locations, infrastructure support, supplies, and coordination with local civilian authorities should be undertaken in advance. Facility support for related functions (morgue overflow, decon stations, staging and reception areas) need advanced consideration.

Pharmaceutical Prophylaxis

MTF medical materiel managers, under RLC cognizance, should notify the Emergency Support Operations Center (ESOC), Defense Supply Center Philadelphia (DSCP) of the developing BW event at 215-737-3965. This announcement will activate emergency actions at DSCP and will allow lead-time to source the expected high-volume requests for CBRNE

medical items. See Chapter 3 for info on the ESOC and transport of mass prophylaxis and treatment items.

Pharmaceutical prophylaxis and treatment guidelines vary with circumstance and biological agent encountered. Guidelines have been published and are periodically updated in the USAMRIID "Blue Book." In the final analysis prophylactic and treatment measures should be guided by the clinical suspicions of the physicians on the scene.

Communications

Advance planning should be undertaken to deal with media and the release of public information. Clear, consistent, risk communication material should be provided (e.g., via MTF fact sheets or flyers) to staff members, patients, families, visitors, media, and to the general public. BUMED resources (MED-27 and NEHC) are available to assist MTFs in developing these risk communication materials.

MTF personnel can expect to be confronted by news media before, during, and after a BW related disaster. In addition, some MTF staff may feel compelled to "tell their story" about what is happening. A pre-established policy governing staff interaction with the media, release of information, avoidance of speculative or hypothetical questions and establishment of authorized spokespersons will minimize disruptions. Consideration should be given to having a designated site located away from the MTF to hold regularly scheduled, and pre-announced media related news events.

MTF Commander Actions, Day 2:

- Preserve mission capability and ensure safety of facility, staff, and patients.
- Integrate whatever assistance may be forthcoming into unified effort.
- Control and sequester contagion, implement prophylaxis, if appropriate.
- Implement MTF media and communications plan with designated single release point for information. Consider use of neutral, non-MTF site for media briefings at pre-announced times. Provide centralized information source for family and friends seeking patient status reports.
- Request consultation and assistance from BUMED activities with specialized BW response team capabilities (e.g. NMRC, NEHC, NEPMUs).

Mass Casualty Management (48-72 hours)

Day Three: Overnight you are called by the security department as several ill civilians were found wandering on the hospital compound and in-eligible civilians are gathering in greater numbers outside the entrance gates. One of your branch clinics was broken into and stores of surgical masks and gloves were taken.

At 0900 the agent responsible for the outbreak is confirmed as* Bacillus anthracis*. Within an hour, the local authorities institute a quarantine of the affected areas of the city. Hospital staff attempting to report to work from the suburbs north and east of the city are turned away at roadblocks. On board hospital personnel are forbidden to leave the quarantine area, and several staff with children in daycare outside the city are asking to be waived from the quarantine and to leave early. Facility Management reports that you don't have the barracks space or food supplies to house the on-board staff overnight. They also report someone attempted to seal the ducts on the hospital's ventilation system with plastic bags and several of the air pumps have been sabotaged.

Medevac of serious patients from your hospital is quarantined, in fact your chopper pad is blocked with an aircraft whose crew refuses to start the engine for fear the rotor wash will aerosolize spores in the soil. Some of the staff is refusing to take care of respiratory patients. Supplies of adhesive tape dwindle as staff members use it to plaster surgical masks onto their faces. The pharmacy is nearly out of ciprofloxicin and the prime vendor contractor has been overwhelmed. Federal Express, DHL and UPS are refusing to make deliveries into the quarantine area.

All local area hospitals report their capacity to be overwhelmed. The worried well are log-jamming the system. A total of 34 deaths have been reported. The state governor declares an emergency, requests federal assistance, and mobilizes the National Guard and specialized response units. Local media begin lambasting the Navy for sequestering antibiotics and turning civilians away. As a public service measure one of the aircraft carriers in port opens her medical stores to the civilian public.

At 1400, someone from security arrives in the command suite with a box of gas masks, indicating he was told to deliver them to the skipper.

Hospital Emergency Incident Command System

MTF commanders should gain a better understanding of the Hospital Emergency Incident Command System (HEICS) module and the Incident Command System (ICS) for improving their command and control during disasters and emergencies. ICS is a mandated requirement established by federal law for any CBRNE terrorism related response. Understanding the basic terminology and concepts of these two systems will greatly increase MTF effectiveness through improved cooperation and coordination with multiple response agencies at all levels. The Hospital Emergency Incident Command System (HEICS) may be downloaded from the following website: http://www.emsa.cahwnet.gov/dms2/history.htm. The Federal Emergency Management Agency (FEMA) has produced a self-study course on the Incident Command Systems (ICS), obtainable at http://www.fema.gov/emi/is195.htm.

Facility Security

Security and crowd control measures may become necessary at MTFs, emergency departments, fatality handling sites, mass prophylaxis stockpile and distribution sites, and at other vital installation locations. A good MTF traffic management plan provides physical control of ingress and egress routes for essential personnel, equipment, food, water, and for residents within the affected area, and for all travel (to / from) for reception and staging areas.

Protection of Staff

MTF responders and healthcare staff should wear proper protective equipment when working with potentially contaminated material and victims. When and if a hazardous area is defined, proper protection should be available for not only first responders but also to those people living or otherwise located near these hazardous areas. Refer to Appendix C for more information and website resources on individual protective equipment (IPE), collective protection, MTF decontamination, and universal precautions needed in any CBRNE environment.

Mass Prophylaxis

Early and effective outbreak control measures will reduce MTF commander vulnerability.

Mass prophylaxis of military population and eligible beneficiaries should begin as quickly as effective regimen can be identified. *A priori* development of a prophylaxis distribution plan is recommended. MTF commanders should familiarize themselves with RLC and community standards for prioritization of prophylaxis and treatment. The MTF distribution plan with its priority emphasis on protection of military mission capability and essential personnel should be made known to community leaders prior to any event. In implementing the distribution plan, MTF commanders should be prepared to field pointed questions from staff members, families, the media and the general public. Such plans should also include provisions to accommodate recommended follow-up prophylactic regimes, secondary vaccines or boosters.

Mass civilian prophylaxis, treatment, containment, and quarantine measures, require coordination with multiple Federal agencies. Mass civilian prophylaxis using pharmaceuticals lacking FDA approval for such use requires Federal approval.

Resupply of CBRNE medical items may be facilitated 24 hours / day through the Emergency Support Operations Center (ESOC), Defense Supply Center Philadelphia. See Appendix C for more info on the ESOC. On-hand inventory distributions should consider that resupply from non Navy / DoD sources (i.e., without assistance from the National Pharmaceutical Stockpiles (NPS "Push Packs") and Vendor Managed Inventory of CDC / VA may be delayed. See Chapter 4 for more information on the NPS Push Packs. Navy Medicine's just-in-time inventory posture precludes the stockpile of medical materiel and commodities. Fiscal and manpower constraints make it unwise to "stockpile" the date sensitive and highly perishable CBRNE medical defense and treatment items in local warehouses. The 2000 Joint Warfighting Capability Assessment study conducted by Logistics Management Institute (LMI) for the combatant commanders proved that CBRNE medical defense pharmaceuticals are readily available from commercial sources at a 150 percent estimated dual multiple theater warfare demand and deliverable within 24-48 hours of notification. Transportation of supplies from depot stock, manufacturer, or distributor within CONUS, given our current capabilities, is achievable at 24-48 hour timeframe as well. However, OCONUS strategic and tactical transportation capabilities are still under study by LMI, therefore, it will be premature to assume 100 percent and 24-48 transportation coverage for these items.

Recommended MTF pharmaceuticals for selected BW agents are listed in Appendix B and in the USAMRIID "blue book" and include the following: ciprofloxacin; doxycycline; penicillin; streptomycin; gentamicin; chloramphenicol; tetracycline; ribavirin; yellow fever vaccine; and toxoid vaccine. MTF commanders are encouraged to partner with nearby or regional military MTFs and local health agencies to reduce duplication of efforts.

The "Worried Well"

Many patients may present for medical care both with and without symptoms consistent with exposure. After evaluation, they are found not to be casualties of the event and in retrospect, are dubbed the "worried well." This is a diagnosis which can ONLY be made in retrospect and these patients will thus place demands on the healthcare system until their unaffected status is confirmed. The difficulty of this situation is that these "worried well" may exceed the number of exposed victims by 5 to 15 times according to some published reports. In the case of the Tokyo subway attack by the Aum Shinrikyo terrorists, the number of worried well was nearly 4500 of the approximate 5000 reported casualties.

MTFs should anticipate the potential for large volumes of patients who may ultimately be determined to be unaffected and establish procedures that accommodate the demands on space, staffing, equipment, consumables and transportation which these patients create. They cannot be assumed to be healthy. This must be verified through the application of appropriate clinical evaluation.

Support Services

MTF commanders can use the disaster relief and emergency services of the American Red Cross to provide information hotlines, assist with implementation of central coordination efforts involving various volunteer service groups and non-governmental organizations (NGOs), provide food and shelter, etc. The Red Cross should be included in MTF disaster planning and drills / exercises.

In a federally declared emergency, the American Red Cross serves as the Lead Federal Agency for Mass Care services under the Federal Response Plan (FRP) (see Appendix C for info on the FRP).

NGOs, such as the Salvation Army, Latter Day Saints Charities, Catholic Medical Missions, United Methodist Relief Committee, etc., can play a vital role in emergency relief. MTF commanders should consider establishing a volunteer skills / NGO database to catalog skills and professional services that can assist with victim and family support services (e.g., healthcare, shelter, food, water, language translation services, childcare, animal care, etc.).

There may be many individual volunteers, staff augmentees, NGOs, and others who will be present to assist the MTF during the BW event. The needs of these volunteer caregivers should also be considered. Victim and family support needs should also be included in MTF mutual assistance agreements with local community resource. The Emergency Services Division, Medical Services Branch of the Canadian Minister of Health and National Welfare produced the manual "Personal Services: Psychosocial Planning for Disasters" - a practical guide to planning, training, organizing, and implementing personal and family services in the wake of a disaster. This manual is available at http://www.hc-sc.gc.ca/msb/emergency/pers_e.pdf.

Psychological Aspects of BW

During a bioterrorism event anxiety, fear, and panic can be expected from not only victims of the attack, but from MTF staff members and their families. MTF commanders can assist with the management of psychological needs by incorporating mental health scenarios and mental health professionals (including chaplains and local community clergy support) into BW drills and exercises. The National Center for Post-Traumatic Stress Disorders has produced a monograph on disaster counseling, entitled "Disaster Response and Recovery: A Handbook for Mental Health Professionals." It may be found at http://www.empowermentzone.com/disaster.txt.

Mutual Aid Agreements

The MTF should consider pre-established mutual aid agreements with neighboring communities and health agencies for sharing of resources across jurisdictional boundaries. Such agreements should consider: EMS, private ambulance services, first responder and other transportation services; sharing of local fixed site health care facilities, skilled nursing facilities, and residential homes, patient overflow and facility expansion sites; hospital supply centers for obtaining mechanical ventilators; local funeral home resources; county medical examiner affiliation; etc.

Mutual aid agreements should be coordinated with the nearest base installation to facilitate overall military response efforts and allow for improved communications between the installation commander and the MTF commander. Physical security needs, transportation requirements, and the possibility of access restrictions and / or quarantine order should be anticipated.

MTF Commanders Actions, Mass Casualty Phase:

EMERGENCY MANAGEMENT Response Activities:
- Activate MTF Emergency Operations Center (EOC)
- Request local, state, federal representation to MTF EOC
- Implement MTF Emergency Operations Plan (EOP)

- Provide facility security in conjunction with base installation / law enforcement agencies at: MTF; ER; Ambulatory Care Centers; medical supply depots; prophylaxis distribution sites; morgue; ingress and egress routes for essential personnel, equipment and residents

- Implement mass prophylaxis distribution plan (Refer to Chapter 2 for considerations).

- Refer to the section on the "worried well" for recommended response activities dealing with concerned, but unaffected patients.

SUPPORT SERVICES – Response Activities:
- Implement central coordination of NGOs / volunteer service organizations
- Conduct next of kin notification
- Provide families with non-medical, logistics, and transportation assistance
- Perform crisis, mental health, and grief counseling
- Provide translation services for non-English speakers
- Seek State Department liaison if disasters involves OCONUS MTFs / foreign victims
- Provide individual and family financial assistance, lodging assistance

PSYCHOLOGICAL Response Activities:
- Minimize panic by clearly communicating risks involved with a BW event
- Develop informational items describing how MTF plans to protect its patients (e.g., use of media / press flyers, info / fact sheets, etc.)
- Provide BW training and education opportunities for all staff - include frank discussions of potential risks
- Include mental health participation in BW drills and exercises
- Consider MOUs / MOAs for mental health services with local community

- Establish liaison with local, regional, and state assistance teams. Coordinate training exercises and drills with National Disaster Medical System (NDMS) sponsored Disaster Medical Assistance Teams (DMAT) teams and National Guard WMD Civil Support Teams. See Appendix C for more info on state based National Guard response teams.

- Activate mutual aid agreements with local and regional community agencies and with the base installation.

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Consequence Management (72-96 + hours)

Day Four: Federal emergency declared. FEMA and the FBI assist local authorities. Death toll mounts… morgues are overwhelmed. Widespread panic shuts down the airport and highways have become gridlocked with people fleeing the area. Rumors are spreading that the area will be quarantined for months as the soil has been permanently contaminated. A group of concerned staff demand to know why they are being exposed to undue risk. They cite "experts" interviewed on local TV who say masks and gloves are not sufficient to prevent human-to-human contagion. A number of other cities and states report suspicion of the same BW agent...

Lead Federal Agencies

With an emergency declared by the President, two federal agencies, FEMA and the FBI will assume lead federal agency roles, and set up a Joint Operations Center (JOC) to provide immediate assistance to local and state authorities. Crisis and consequence management activities should work concurrently. FBI has overall control during crisis management, even on military property. FEMA can offer assistance on or off military installations and serves primarily in an advisory and support role to local and state authorities. FEMA has the lead agency role for domestic consequence management efforts and supports the FBI's role in accordance with Presidential Decision Directive (PDD) 39 (Appendix C).

In the event of a BW / terrorist attack at or near an OCONUS MTF, the State Department is the Lead Federal Agency and will coordinate the U.S. response to requests for relief to foreign governments affected by terrorist attacks against U. S. military / MTF targets.

CINCLANTFLT Role / OCONUS Navy Support by other CINCs

Commander-in-Chief, Atlantic Fleet (CINCLANTFLT) is charged with planning all Navy support to DoD relief operations in support of federally declared relief efforts within CONUS, Puerto Rico, U. S. Virgin Islands, and for foreign disaster relief operations OCONUS in support of U.S. government relief efforts for those nations located within the geographic areas of both CINC Joint Forces Command (JFCOM) and CINC Southern Command (SOUTHCOM). INCONUS deployments of DoD specialized response units under a federally declared emergency are initially validated by a DoD Coordinating Officer, with DoD response units then being ultimately tasked to JFCOM and mobilized by the Joint Task Force - Civil Support (JTF-CS) office. JFCOM will be the supported theater commander for disaster relief operations and CINCLANTFLT will be a supporting component command.

Pacific region OCONUS emergencies are the responsibility of CINCPACFLT for PACOM, NAVEUR handles Europe for EUCOM, and NAVCENT is responsible for the CINCCENT geographic area.

DoD Specialized Response Units

DoD response units may include Chem / Bio Rapid Response teams (C/B-RRT), biological casualty management experts from USAMRIID, NEHC, NMRC, and the Marine Corps Chem-Bio Incident Response Force (CBIRF). For OCONUS MTFs, Crisis Response Teams (CRTs) are proven emergency and disaster response assets already in place. CRTs may provide military assistance sooner while awaiting the arrival of specialized DoD response units. However, these response assets will not be immediately available to MTF commanders. MTFs need to be prepared to provide an immediate response on their own until the Federal Response Plan is activated and outside help arrives.

Military Support to Civil Authorities

MTF commanders may be asked to provide direct medical assistance and support to the civilian community in the absence of a federally declared emergency. MTF commanders have authority to provide emergent response assistance to local and state governments under DoD Instruction 3025.1 (Military Support to Civil Authorities) (see Appendix C). The "Immediate Response" authority of DoDINST 3025.1 may be exercised by MTF commanders when imminently serious conditions resulting from a civil emergency require immediate action to save lives, reduce suffering, or mitigate great property damage. Some examples of approved immediate response activities include, but are not limited to, rescue, evacuation, emergency medical treatment of casualties, maintenance or restoration of emergency medical capabilities, and safeguarding the public health.

Current capabilities and military mission requirements will dictate what MTF resources might be made available under the "Immediate Response" clause. In general, support of military operations will have mission priority over any civil operations, unless otherwise directed by the Secretary of Defense. Additionally, MTF commanders are cautioned DoDINST 3025.1 prohibits the MTF from developing plans or using its resources strictly for the purpose of providing an immediate response to the civilian community.

Posse Comitatus Considerations

Use of Navy medical personnel in the civilian community on an emergent basis does not violate the Posse Comitatus Act (18 USC 1385). The Act requires advance approval for the use of federal military forces to enforce federal, state, or local civil law. However, all MTF mutual aid agreements with civilian agencies should include a legal review. MTFs may consult with BUMED Legal at (202)762-3091.

Mortuary Affairs

With activation of the National Disaster Medical System (NDMS), specialized NDMS Disaster Mortuary Teams (DMORTs) will deploy to assist with fatality management efforts. Consideration should be given to establishing mutual assistance agreements for alternative storage sites (e.g., refrigerated trucks, rail cars, and other cold storage facilities) that can hold remains until final disposition. Additionally, assistance is available from state and federal disaster mortuary assistance teams as part of the National Disaster Medical System (NDMS). See Appendix C for more information on these NDMS disaster mortuary assistance teams.

MTF commanders may face difficult decisions concerning the final disposition of remains, especially when recommended procedures conflict with family member's preferences. Coordination with the chaplain community is encouraged.

Additional information may be found in JP 4-06 Joint Tactics, Techniques, and Procedures for Mortuary Affairs in Joint Operations, at http://www.dtic.mil/doctrine/jel/logistics.htm; and in Appendix M-3 "Mass Fatalities" – Kentucky State Emergency Operations Plan, at: http://webserve.dma.state.ky.us/kyeop.htm.

FATALITY MANAGEMENT – Response Activities:

- Manage expected high volume of families seeking deceased relatives
- Use Morgue as initial central processing site for fatalities
- Consider use of long-term fatality storage facility until final disposition
- Maintain mortuary registry of similar deaths
- Consider temporary and final disposition of fatalities
- Implement options for release of remains, as appropriate

Quarantine / Disease Containment

Although human quarantine is not indicated for anthrax, it may be for other BW agents. Close and frequent communications via chain of command authority with BUMED, Base installation commander / RLC, and with local, state, and federal authorities is therefore, essential to contain the spread of disease. Contingency plans should address MTF continuity of operations, and provide policies and procedures for essential movement of first responders, other critical personnel, staff augmentation, food and water, physical security, etc., in the event of a quarantine order.

The burden of requesting a quarantine order remains a public health decision at the local, regional, or state agency level. If quarantine is requested by public health officials, the order will be issued to law enforcement officials by appropriate authority. The authority to issue such orders rests with the Governor of the State.

Quarantine imposes serious legal, logistics, enforcement, and other concerns and may seem harsh and cruel to those people affected. In addition, the extended viability of some bio-pathogens in soil may extend the period of quarantine. State quarantine laws vary. MTF commanders should obtain military legal counsel on the full implications of a quarantine order in the local community.

Residual Hazard Assessment and Mitigation

Residual hazard mitigation is the shared responsibility of the MTF with local, state, and federal environmental and health agencies. Assessment and mitigation efforts may include efforts of the MTF environmental health staff for sampling of air, water, soil, insect and animal screening for the BW agent.

Decontamination of patients infected through a covert biological attack is normally not necessary. Bioterrorist attacks would most likely be covert, and a significant incubation

period would ensue before patients began experiencing symptoms. However, in the event that the attack used certain toxins (such as SEB, T2 Mycotoxins, or aerosolized Ricin), patients may present early enough that a risk of exposure of healthcare workers still exists. A biological toxin would in most cases have a shortened latent period by comparison, and the possibility of a mass casualty medical incident could be encountered. Attacks of this nature should be treated as chemical attacks, and victims should be decontaminated prior to entrance into healthcare facilities. In such an event, EMS personnel would require experience in a rapid triaging system, such as the Simple Triage and Rapid Treatment (START) system. The START system, modified for contaminated casualties, is described in detail in "Guidelines for Mass Casualty Decontamination During a Terrorist Chemical Agent Incident" http://dp.sbccom.army.mil/fr/cwirp_guidelines_mass_casualty_decon.pdf.

RESIDUAL HAZARD ASSESSMENT AND MITIGATION – Response Activities:
- Conduct environmental sampling (request EHO assistance for air, water, soil, surface swipes, and animal screens)
- Conduct local area control and decontamination
- Perform vector and animal control measures

Criminal Investigations

MTF Commanders may be asked to cooperate with local and Federal law enforcement activities in their criminal investigations of the event.

MTF Commanders Actions, Consequence Management Phase:

- Understand the Federal Response Plan (FRP), Joint Operations Center (JOC), and DoD emergency response units and their impact upon MTF command and control (Refer to Appendix C for specific resource information on the FRP, JOC, JTF-Civil Support office, NDMS, National Guard Civil Support teams, etc.).

- DoD Instruction 3025.1 - Military Support to Civil Authorities (MSCA) in Appendix C concerning the "Immediate Response" clause.

- Contact local and state public health agencies for BW plan coordination efforts (see Appendix C for state agencies)

- See Chapter 4 (Quarantine - Lessons Learned from TOPOFF) for a realistic view of the major implications and issues related to a quarantine order in a large-scale exercise.

CHAPTER 2

Bioterrorism: Post Exposure Chemoprophylaxis and Planning For Mass Distribution Of Pharmaceutical Agents

There are many ways to classify biological warfare agents. Agents can be grouped according to whether they are bacteria, viruses or toxins (Table 1) or whether they have lethal or incapacitating effects (Table 2). The Centers for Disease Control has developed a list of Critical Biologic Agents (categories A, B, and C) (Table 3). Criteria used to develop this list include:

1. Severity of impact on public health and person-to-person transmissibility.
2. Potential for delivery as a weapon.
3. The need for special preparation requirements such as vaccine and medication stockpiling or special laboratory detection techniques.
4. Ability to generate fear or terror in a population.

Category A agents would cause the gravest harm to the population at risk if intentionally released by a terrorist. Category B agents could cause significant morbidity and mortality but would have less of an impact on the medical and public health systems than category A. Category C agents are classified as emerging pathogens or genetically engineered agents.

The potential of biological agents to cause incapacitation as well as lethality must be considered. Depending on the goals of an adversary, incapacitating agents may be more effective than lethal agents due to the overwhelming demand on the medical and evacuation infrastructure, or the expected panic in the population. Several biological agents, such as Venezuelan Equine Encephalitis virus, *Staphylococcus* Enterotoxin B, and *Brucella*, cause significant illness, without significant mortality, and thus pose a significant incapacitating threat.

TABLE 1
AGENTS OF BIOLOGICAL TERRORISM

Bacterial Diseases	Viral Diseases	Intoxications (Biological Toxins)
Anthrax	Smallpox	Botulinum Toxin
Plague	Viral Hemorrhagic Fever	Staphylococcal Enterotoxin B
Tularemia	Viruses (Ebola,	T-2 Mycotoxins
Q Fever	Marburg, Lassa,	Ricin
Brucellosis	Junin, Machupo)	
Glanders	Alphaviruses	
Melioidosis	VEE, EEE and WEE	
Typhus		
Psittacosis		
Salmonellosis		
Shigellosis		
Cryptosporidiosis		

TABLE 2 AGENTS OF BIOLOGICAL TERRORISM	
Lethal	**Incapacitating**
Anthrax	Q Fever
Plague	Brucellosis
Melioidosis	Alphaviruses
Tularemia	T-2 Mycotoxins
Viral Hemorrhagic Fevers	Typhus
Botulinum Toxin	Psittacosis
Ricin Toxin	Salmonellosis
Glanders	Shigellosis
Smallpox	Cryptosporidiosis

TABLE 3 CENTERS FOR DISEASE CONTROL CRITICAL BIOLOGICAL AGENTS		
Category A		
Biological Agent	**Disease**	**Post-Exposure Chemoprophylaxis**
Variola major	Smallpox	Vaccinia vaccine
Bacillus anthracis	Inhalational Anthrax	Ciprofloxacin or Doxycycline + Anthrax vaccine
Yersinia pestis	Pneumonic Plague	Ciprofloxacin or Doxycycline or Tetracycline
Clostridium botulinum toxin	Botulism	None
Francisella tularensis	Tularemia	Ciprofloxacin or Doxycycline or Tetracycline
Filoviruses (Ebola, Marburg) Arenaviruses (Lassa, Junin, Machupo)	Viral Hemorrhagic Fever	None

Category B		
Biological Agent	**Disease**	**Post-Exposure Chemoprophylaxis**
Coxiella burnetti	Q fever	Doxycycline or Tetracycline
Brucella species	Brucellosis	Doxycycline + Rifampin
Burkholderia mallei / psuedomallei	Glanders / Melioidosis	Possibly TMP-SMX
Alphaviruses (Venezuelan, eastern and western equine encephalomyelitis	Encephalitis	None
Toxins (Ricin, T-2, epsilon toxin of C. perfringens, SEB)	Toxic syndromes	None
Rickettsia prowazekii	Typhus	Doxycycline
Chlamydia psittaci	Psittacosis	Tetracycline, probably Doxycycline
Food Safety Threat Agents *Salmonella* species, *Shigella dysenteriae, Escherichia coli* 0157:H7 **Water Safety threat agents** *Cryptosporidium parvum*, *Vibrio cholerae*		

Category C
Emerging pathogens that could be engineered for mass dissemination in the future because of availability, ease of production and dissemination; and potential for high morbidity and mortality and major health impact Nipah virus, hantavirus, tickborne hemorrhagic fever viruses, tickborne encephalitis virus, yellow fever and multidrug-resistant tuberculosis

Post-exposure chemoprophylaxis is available for several of the CDC category A and B agents (Table 3). However, in most such cases the administration of antibiotics for this purpose is considered an "off label use" of that medication, therefore it would be necessary to obtain informed consent from individual service members before prescribing these drugs, unless a specific doctor-patient relationship exists or is established. Mass distribution of such pharmaceuticals to active duty service members would not be permissible unless a waiver of this requirement was obtained (see below). The only exception to this rule is in the case of the FDA approved use of ciprofloxacin for post-exposure chemoprophylaxis of inhalational

anthrax. The legal mechanisms to deal with the same issues in civilian populations have not yet been developed.

Under the provisions of Executive Order 13139 the President of the United States may waive informed consent (at the request of the Secretary of Defense and only the Secretary of Defense) if:

1. Informed consent is not feasible
2. Informed consent is contrary to the best interests of the service member
3. Obtaining informed consent is not in the best interests of national security

It is recommended that MTF Commanders become familiar with the provisions of Executive Order 13139 through their legal counsel.

As noted in table 3, for those agents of biological terrorism for which post-exposure chemoprophylaxis exists, the most appropriate choice of drugs to consider for stockpiling are doxycycline and/or ciprofloxacin. Either of these drugs are thought to be effective for the CDC category A diseases anthrax, plague and tularemia and for the category B diseases brucellosis and Q-Fever, typhus and probably psitticosis.

DEVELOPING A PLAN TO STOCKPILE AND MASS DISTRIBUTE PHARMACEUTICALS IN PREPARATION FOR BIOTERRORISM

Probably the first question to answer is whether an individual MTF should even consider doing this at all. Bioterrorism is usually thought of as a low probability high consequence event. No one can predict with certainty where a terrorist will attempt to employ his craft. However, it is unsafe to assume that the small out-of-the-way MTF is not at risk for bioterrorism. In fact, if history is any guide, terrorism seems to occur more frequently away from the big cities. The largest ever (and only) case of bioterrorism on U.S. soil took place in the small town of the Dalles in Oregon. Seven hundred fifty one people became ill after eating from different restaurant salad bars that had been deliberately tainted with pathogenic salmonella. Shockingly, it took over a year and the confession of a former member of the Rajneeshe's, the perpetrators of the act, before public health authorities realized that the outbreak was an act of bioterrorism and not the result of local practices.

MTF's should make every reasonable cost-effective effort to prepare for acts of bioterrorism, but one can also argue that it may be too costly for an individual MTF to stockpile sufficient quantities of the proper equipment and pharmaceuticals necessary to be adequately prepared for such a low-likelihood event. It may be more reasonable for an MTF Commander to fully understand how to tap into the CDC's National Pharmaceutical Stockpile (NPS) that has recently become operational (www.cdc.gov) before committing to an expensive plan that may never be used. If, however, intelligence estimates suggest a higher local area threat risk for a specific region, it may be prudent to develop an in-house medication and equipment-stockpiling plan. A cooperative sharing arrangement among regional military healthcare networks may be beneficial.

Whether a commander decides to develop an in-house plan or rely partly or solely on the CDC NPS, the key to providing effective and timely post-exposure prophylaxis to victims of bioterrorism will be the distribution plan. There are many things to consider when developing a plan:

1. The CDC will deliver bulk doses of pharmaceuticals to the nearest large airport within 12 hours of notification. Upon arrival at the Airport, State and local officials take receipt of the stockpile and from then on the State or county distribution plan will be implemented. (Note: States must have a distribution plan in place in order for the CDC to release the NPS).

2. If you rely on the prime vendor for re-supply of medicines what is their guarantee for shipment?

3. How will you break down bulk packaging of drugs for distribution to individual patients?

4. How will you provide security to prevent riots or theft?

5. How will you store drugs to prevent spoilage?

6. How many distribution points will you need to set up to maximize distribution to your patient population while minimizing confusion, hysteria and panic?

7. Will you distribute only to eligible beneficiaries or to anyone presenting for treatment? What will be your priority for dispensing? If you deny treatment to non-eligible patients how will you maintain order in the event of riots?

8. Each dose of medications will require patient instructions about how to take the medication, possible side effects, need for follow-up etc.

9. How many days supply of antibiotics will you give to your patients? For example, in the case of post-exposure anthrax the FDA recommends a 60-day supply of ciprofloxacin (500 mg bid). Will you supply 5, 7, 10 days of medication to each patient? Service members should also receive 3 doses of anthrax vaccine at 0, 2 weeks and 4 weeks.

10. What sort of registration information will be collected on each patient? How and who will collect it?

SUMMARY

The choice of which antibiotics to use during post-exposure chemoprophylaxis in a confirmed biological weapons event is relatively straightforward. There are essentially two choices: ciprofloxacin or doxycycline. The most difficult problem in such a scenario will be determining if a bioterrorism event has occurred. Once bioterrorism is confirmed or strongly suspected, a decision will have to be made. We will limit our discussion to the CDC category A agents. These six agents generally present in one of four ways: pulmonary syndrome (plague, anthrax, tularemia), cutaneous syndrome (smallpox), hemmorrhagic fever syndrome (viral hemorrhagic fever), or with a progressive neuromuscular syndrome (botulism).

Patients presenting with a cutaneous syndrome suggestive of smallpox but without symptoms can be treated — post-exposure — with vaccinia vaccine (smallpox vaccine). This may be partially effective in preventing or ameliorating clinical smallpox for up to 7 days post-exposure. In the U.S., vaccinia vaccine is in extremely short supply. The CDC stockpiles roughly 12-15 million doses and at present there is no way to produce additional stocks. This problem is being addressed at the highest levels and programs are in place for the production and receipt of an additional 40 million doses by 2004.

There is no post-exposure prophylaxis available for patients presenting with viral hemorrhagic fever syndrome (febrile illness, facial flushing, petechiae, bleeding, edema, hypotension and shock; see USAMRIID Blue Book).

Asymptomatic patients who may have been exposed to aerosolized anthrax, plague or tularemia should receive post-exposure prophylaxis with either ciprofloxacin or doxycycline. Even patients who present with a pulmonary syndrome in the context of suspected bioterrorism should receive this treatment at the earliest possible moment. The patient with active anthrax is not likely to benefit but symptomatic patients exposed to either plague or tularemia have a far better chance of benefiting and surviving.

An MTF Commander must carefully weigh the pros and cons of setting up a separate pharmaceutical stockpile for his / her installation. Local area threat conditions may justify such action, however, cost and logistical issues may make it impractical to do so. The CDC's National Pharmaceutical Stockpile (NPS) is designed to reach any location in the continental U.S. within 12 hours of activation by federal authorities. The Vendor Managed Inventory (VMI) claims to be able to re-supply emergency pharmaceutical stocks within 24-48 hours of a request to do so. It may be more practical and cost effective for MTF commanders to rely on these options rather than attempting to tackle the complex and costly issue of "in-house" pharmaceutical stockpiling.

THE ASSISTANT SECRETARY OF DEFENSE

Health Affairs Oct 19, 2001

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY
(MANPOWER AND RESERVE AFFAIRS)
ASSISTANT SECRETARY OF THE NAVY
(MANPOWER AND RESERVE AFFAIRS)
ASSISTANT SECRETARY OF THE AIR FORCE
(MANPOWER AND RESERVE AFFAIRS)
EXECUTIVE DIRECTOR, TRICARE MANAGEMENT
ACTIVITY

SUBJECT: Policy on Prophylaxis and Treatment for Anthrax Exposures

This policy provides guidance for prescribing antibiotics for post-exposure prophylaxis for anthrax. This guidance is applicable to all DoD providers. The recent isolation of anthrax in several different locales in the U.S. has highlighted the need for policy guidance concerning the dispensing of antibiotics to those who are concerned that they may have been exposed to anthrax or who fear they might be exposed in the future. Current guidelines from the Centers for Disease Control and Prevention (CDC) recommend that physicians not prescribe antibiotics for anthrax at this time unless there is credible evidence to support the possibility of exposure. Providers should work with local public health officials in cases of suspected exposure, and prescribe antibiotics in accordance with current CDC guidelines.

A focus upon identification and tracking of suspected exposures will help ensure that those exposed receive appropriate care and follow-up. Preventive measures, such as prophylactic antibiotics, are not without risk and in the absence of a release of a biologic agent, currently have no benefit. Inappropriate use of antibiotics will lead to antibiotic resistance among microorganisms causing common bacterial infections (e.g., otitis media, pneumonia) and may result in serious adverse effects (e.g., *Clostridium difficile* colitis, allergic reactions, interactions with other medications). Given the risks associated with inappropriate antibiotic use and since medications from the national stockpile would be rapidly available for prophylaxis of exposed persons following a confirmed bioterrorist event, physicians should refrain from prescribing antibiotics for current use or to stockpile for the future.

DoD providers should prescribe antibiotics for patient use as prophylaxis agents only if there is clinical suspicion of exposure to anthrax, or if there has been confirmation by local public health officials that such prescribing is indicated. Similarly, military facility pharmacies should dispense such prescriptions only under these circumstances. All suspected exposures to biologic agents must be reported to local preventive medicine, public health and law enforcement officials immediately so that appropriate investigation and any necessary control measures may begin.

With respect to pharmacy benefits through other than military facility providers, the Executive Director, TRICARE Management Activity shall establish appropriate guidelines for utilization review and medical necessity evaluation consistent with this memorandum.

For more information on emergency public health response efforts, the CDC web page at www.bt.cdc.gov is recommended, where information regarding the most common questions about this subject as well as the latest information on preparedness efforts will continue to be posted and updated.

Further guidance on how to handle anthrax and other biological agent threats may also be accessed at
http://www.bt.cdc.gov/DocumentsApp/Anthrax/10122001Handle/10122001Handle.asp

Guidance concerning treatment or prophylaxis for anthrax may be accessed at
http://www.bt.cdc.gov/Agent/Anthrax/Consensus.pdf and
www.cdc.gov.mmwr/preview/mmwrhtml/rr4915a1.htm

Any questions pertaining to the above recommendations should be referred to Colonel John Powers at 703-681-1708.

/s/
J. Jarrett Clinton, MD, MPH
Acting Assistant Secretary

FDA PUBLIC HEALTH ADVISORY:
UPDATE ON USE OF DOXYCYCLINE FOR ANTHRAX EXPOSURE

Secretary of Health and Human Affairs Tommy G. Thompson announced on October 17 in testimony before the Committee on Governmental Affairs and Subcommittee on International Security, Proliferation and Federal Services of the United States Senate, that the Food and Drug Administration is approving new labeling for the use of several antibiotics to treat anthrax.

The following is being issued to provide healthcare providers with clarification on dosing regimens about doxycycline. In addition, FDA is developing more information about the use of this and other antibiotics to treat anthrax and will provide this information soon.

Doxycycline is approved for the treatment of anthrax in all its forms. The FDA is providing additional information concerning the dosing regimen for the treatment of anthrax, including cutaneous and inhalation anthrax (post-exposure). The currently recommended dosage regimen of doxycycline for severe disease is 100 mg every 12 hours for adults and 1 mg per pound (2.2 mg per kilogram) every 12 hours for children less that 100 pounds. These dosage regimens are appropriate for use in patients who have been exposed to anthrax (*Bacillus anthracis)* regardless of the route of exposure.

FDA and other health authorities strongly discourage individuals from taking any antibiotic for prevention of anthrax without the specific advice of a physician and a clear indication that exposure to the organism may have occurred.

FDA Public Health Advisory released October 18, 2001

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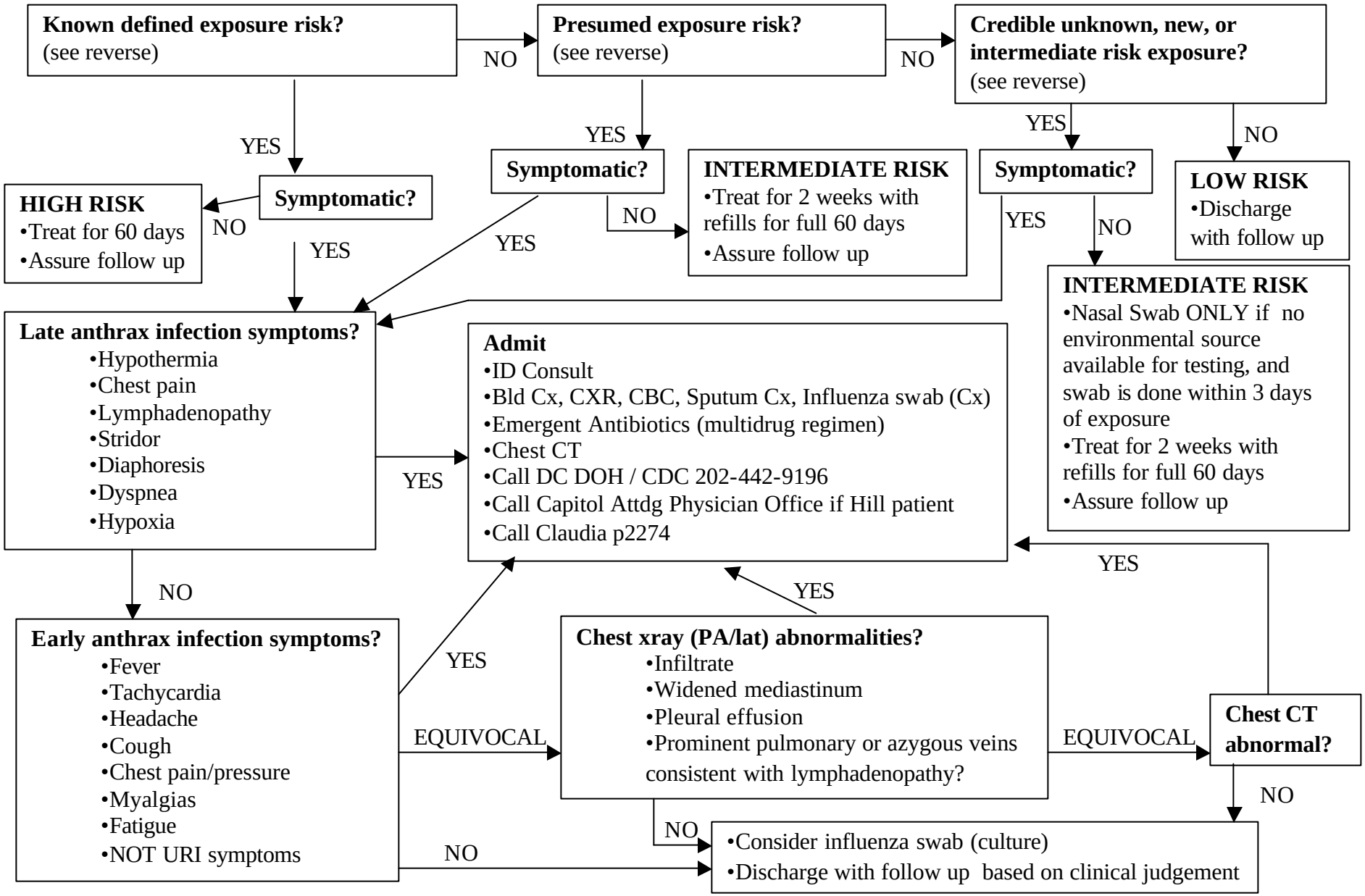
Anthrax Protocol V12.0 (11/02/01) George Washington University Department of Emergency Medicine

Claudia Ranniger M.D., Ph.D.



The information contained in this algorithm is compiled from multiple sources. These recommendations are updated frequently and represent the best information available at the time of publication. This protocol should be used as a guideline only, and is not a substitute for sound clinical judgement.

Anthrax Protocol V12.0 (11/02/01) George Washington University Department of Emergency Medicine

Claudia Ranniger M.D., Ph.D.

Known defined exposure risk

•Hart Office Bldg, Oct 15, 9AM-7pm, ANYWHERE on 5th and 6th floor (include mailroom)
•Hart Office Bldg SW freight elevator (Oct 12 to Oct 26)
•Longworth Bldg, only rooms noted:
  •Mailroom (Oct 10-22)
  •1740 (Rep Baldacci) (Oct 12-17)
  •1630 (Rep Holt) (Oct 12-17)
  •1605 (Rep Pence) (Oct 12-17)
•Dirkson Bldg Mailroom (Oct 10-22)
•Cabot Bldg Mailroom (Oct 10-22)
•Ford Bldg Mailroom (Oct 10-22)
•P Street mail facility
•Ford Bldg Rm 167 (10/22 on)*This room was used as a changing room for hazmat workers decontaminating the building - any workers or police in this room since Ford closed should be treated.*
•Brentwood Postal Facility in employee work areas or bulk mail depository (Oct 10-22)
•State Department Annex 32 mailroom employee work areas
•Airmail Processing Facility, Anne Arundel County near BWI (Oct 10-22)
•Decontamination crews wearing level B or lower (C, D) protective gear in Hart Bldg
•**No swabs**
•**Full 60 days of antibiotics**
•**HIGH RISK discharge instructions**

Presumed exposure risk

•Any DC Post Office Facility in employee work areas including bulk mail depository (Oct 10-22) in which environmental testing is pending or **positive.**

•- Northwest	- Woodridge	- Mid City
•- Kalorama	- Bolling	- Pentagon
•- Ben Franklin	- Tech World	- Natl Airport
•- Columbia Hts	Finance Center	- Farragut
•- 20th Street	- Friendship Hts	- Southwest

•- Dulles Airport Retail Branch
•*Dulles Terminal Mail Facility will not be tested and prophylaxis is not recommended.*
•Federal mail facilities with zip codes 202xx-205xx, in employee/bulk mail areas Oct 10-22, pending environmental sampling.
•Private mailrooms in employee/bulk mail areas Oct 10-22, pending environmental testing IF EITHER
  •business or organization is a likely target for bioterrorism (e.g., media)
  •business is located in zip code 200xx AND mailroom has automated sorting equipment

For the above groups, if environmental sampling is negative, antibiotics may be discontinued. If it is positive, continue on antibiotics until degree of contamination can be evaluated. Always consider risk of cutaneous anthrax where spores were found.

•**No nasal swab**
•**Treat for 2 weeks with 3 refills (+ 3 day supply to go); advise pts to continue taking until told to stop by CDC or MD**
•**INTERMEDIATE RISK discharge instructions**

Credible unknown, new, or intermediate risk exposure?

•Persons reporting exposure to aerosolized powder (eg, opening mail)
•C*onsider increased risk if mail addressed to high-profile person or corporation, or if letter contains a written threat*

•Other credible exposure
•*(Increased risk if employee of media corporation or high-profile companies or institutions, especially if they routinely handle mail)*

•**Consider nasal swab if no environmental source available for testing, and swab is done within 3 days of exposure**
•**Treat for 2 weeks with 3 refills (+ 3 day supply to go); advise pts to continue taking until told to stop by CDC or MD**
•**INTERMEDIATE RISK discharge instructions**

The information contained in this algorithm is compiled from multiple sources. These recommendations are updated frequently and represent the best information available at the time of publication. This protocol should be used as a guideline only, and is not a substitute for sound clinical judgement.

November 9, 2001 / 50(44);987-990

Notice to Readers: Interim Guidelines for Investigation of and Response to *Bacillus Anthracis* Exposures

Environmental Sampling. Environmental testing to detect *B. anthracis* on surfaces or in the air can be used to investigate known or suspected exposure events. The highest priority of an investigation is to evaluate the risk for exposure to aerosolized *B. anthracis* spores. Persons collecting and testing samples should 1) obtain adequate samples, 2) avoid cross-contamination during processing, and 3) ensure proficient laboratory testing and interpretation of test results. A positive laboratory test for *B. anthracis* from a sample of an environmental surface may be caused by cross-contamination from an exposure vehicle (e.g., contact with an envelope containing *B. anthracis*), background occurrence of *B. anthracis* spores in the environment, or previously aerosolized *B. anthracis* that has settled onto environmental surfaces. Laboratory test results of environmental surface samples should not be the only criterion for starting, continuing, or stopping antimicrobial prophylaxis for inhalational disease.

Environmental sampling can be directed, prospective, or random. In directed sampling, air and/or surface samples are obtained as part of an investigation of a specific threat, a known exposure, or of persons with bioterrorism-related anthrax. Directed environmental sampling may play a critical role in characterizing potential exposures and guiding public health action (Box 1).

Prospective environmental sampling is defined as ongoing sampling and testing of air or surfaces for *B. anthracis* spores. The value of prospective sampling is not known. Current technologies for monitoring air for *B. anthracis* and other agents are not validated and their performance has not been assessed during bioterrorism events. Prospective environmental sampling of surfaces may have a role in detecting *B. anthracis* contamination, especially at facilities or events determined to be at high risk for bioterrorism (Box 1).

The testing of random environmental samples (i.e., sampling air or surfaces of facilities that are not directly associated with confirmed anthrax disease or a known *B. anthracis* exposure) is of uncertain utility in detecting past exposures. Random positive tests for *B. anthracis* spores may represent cross-contamination from an exposure vehicle (e.g., letter) that poses negligible risks for inhalational anthrax. These positive test results may prompt more extensive evaluation to direct cleanup, if needed.

Nasal Swab Cultures. Nasal swab cultures should not be used to diagnose cases of anthrax or to evaluate whether a person had been exposed. Nasal swab cultures may be useful in the investigation of known or suspected airborne *B. anthracis* (Box 1). Because the sensitivity of nasal swab cultures decreases over time, cultures should be obtained within 7 days of the

exposure. The presence of *B. anthracis* from a nasal swab culture cannot be determined by gram stain or colony characteristics alone and requires confirmatory testing by qualified laboratories.

Antimicrobial Prophylaxis. Antimicrobial prophylaxis is used to prevent cases of inhalational anthrax (Box 1). Public health authorities often start prophylaxis before the extent of exposure is known. Subsequent epidemiologic and laboratory test data may indicate that some persons started on prophylaxis were not exposed. These persons should stop antimicrobial prophylaxis. Persons who were exposed should complete 60 days of therapy. No shorter course of antimicrobial prophylaxis exists. The choice of an antimicrobial agent should be based on antimicrobial susceptibility, the drug's effectiveness, adverse events, and cost. *B. anthracis* isolates from patients with bioterrorism-related anthrax have been susceptible to ciprofloxacin, doxycycline, and other agents; the use of doxycycline may be preferable to prevent development of ciprofloxacin resistance in more common bacteria (*1*). Respiratory transmission of *B. anthracis* from person-to-person does not occur; no antimicrobial prophylaxis is indicated.

Closing Facilities. The decision to close a facility is made to prevent cases of inhalational anthrax (Box 1). The facility should remain closed until the risk for inhalational disease is eliminated.

Reference

1. CDC. Update: investigation of bioterrorism-related anthrax and interim guidelines for exposure management and antimicrobial therapy, October 2001. MMWR 2001;50:909--19.

Box 1

BOX 1. Interim guidelines for investigation of and response to *B. anthracis* exposures

Environmental Sampling

Directed sampling of environmental surfaces may be indicated:

- To identify a site or source of *Bacillus anthracis* exposure that has resulted in a case(s) of anthrax
- To trace the route of an exposure vehicle (e.g., a powdercontaining letter)
- To obtain the *B. anthracis* strain when isolates from patients are not available
- To guide cleanup activities in a contaminated area or building
- To assess biosafety procedures in laboratories processing *B. anthracis* specimens

Prospective sampling of environmental surfaces may be indicated:

- To identify receipt of a contaminated exposure vehicle in high risk facilities (e.g., mailrooms of targeted persons or groups)
- To detect aerosolized *B. anthracis* in high risk areas or events

Laboratory testing of environmental surface samples should not be the only means to determine the need for antimicrobial prophylaxis.

Nasal Swab Cultures

Collection of nasal swabs for culture of *B. anthracis* may be useful:

- To help define an area of exposure to aerosolized *B. anthracis*

- To help ascertain where a person with inhalational anthrax was exposed if the time and place of exposure are not already known

Collection of nasal swabs for culture of *B. anthracis* is not indicated:

- To diagnose anthrax
- To determine a person's risk of exposure and the need for antimicrobial prophylaxis
- To determine when antimicrobial prophylaxis should be stopped
- To supplement random environmental sampling

Antimicrobial Prophylaxis

Antimicrobial prophylaxis may be initiated pending additional information when:

- A person is exposed to an air space where a suspicious material may have been aerosolized (e.g., near a suspicious powder-containing letter during opening)
- A person has shared the air space likely to be the source of an inhalational anthrax case

Antimicrobial prophylaxis should be continued for 60 days for:

- Persons exposed to an air space known to be contaminated with aerosolized *B. anthracis*
- Persons exposed to an air space known to be the source of an inhalational anthrax case
- Persons along the transit path of an envelope or other vehicle containing *B. anthracis* that may have been aerosolized (e.g., a postal sorting facility in which an envelope containing *B. anthracis* was processed)
- Unvaccinated laboratory workers exposed to confirmed *B. anthracis* cultures

Antimicrobial prophylaxis is not indicated:

- For prevention of cutaneous anthrax
- For autopsy personnel examining bodies infected with anthrax when appropriate isolation precautions and procedures are followed
- For hospital personnel caring for patients with anthrax
- For persons who routinely open or handle mail in the absence of a suspicious letter or credible threat

A positive test for B. anthracis from a randomly collected specimen does not require implementation of antimicrobial prophylaxis or the closing of a facility.

Closing a Facility

Closing a facility or a part of a facility may be indicated:

- After an inhalational anthrax case is detected and a probable site of exposure in the facility is identified
- When there is a known aerosolization of *B. anthracis* in the facility
- When evidence strongly suggests an aerosolization of *B. anthracis* in the facility
- As determined by law enforcement authorities in a criminal investigation

Closing a facility is not indicated:

- Based only on the identification of *B. anthracis* from samples of environmental surfaces
- Based only on the identification of a cutaneous anthrax cases

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GUIDANCE FOR ENVIRONMENTAL SAMPLING USING THE HAND HELD ASSAY FORBACILLU SPECIES INCLUDING ANTHRAX
November 2001

1. This document provides guidance for the use of the hand held assay (HHA) for bacillus bacteria, including *Bacillus anthracis* (which causes anthrax). The HHA is a rapid screening test for certain *Bacillus* species. This device is intended to be used for sampling visible substances and not for detecting non-visible low-level residual contamination. The device is useful in incidents where a visible substance such as a powder could possibly be anthrax spores. It is not for clinical sampling, i.e. samples from biological specimens such as nasal swabs. It does not detect chemical agents or radioactive material.

2. This document does not address the Incident Command System, personal protective equipment and respirator selection, entry and egress from the area to be sampled, precautions in the sampling area, decontamination procedures and sample shipping and storage procedures. This guidance covers:

A. Sample collection using the HHA
B. Interpreting the results with the HHA
C. Confirmatory testing
D. HHA results reporting

Sample collection using the HHA. Each HHA kit includes one vial of buffer solution, the HHA device itself, and an instruction sheet. Pre-packaged sterile swabs, small sealable plastic bags, and a timer or wristwatch are not included in the kit and must be obtained separately. Sample collection and use of the sampling kit is as follows:

A. Use pre-packaged sterile swabs to sample the desired powder or substance.
B. Swab the desired substance using two swabs. Place one swab in a clean, dry, sealable plastic bag and record where obtained. This is for confirmatory testing.
C. Unscrew the cap of the solution bottle. Using the cap, pop off the dropper tip of the bottle, carefully retaining the tip in the cap. Place the second swab in the container and soak the tip in the solution. Lift the tip of the swab off the bottom of the bottle and carefully break off the swab handle against the lip of the bottle. Replace the dropper tip onto the bottle, using the bottle cap. Snap the dropper tip firmly onto the bottle. Screw on the cap. Shake and wait five (5) minutes.
D. When ready for application, open the package and examine the small desiccant packs. Use the HHA only if the desiccant packs are blue. If the desiccant packs are pink the assay kit is NOT suitable for use.
E. The HHA has a sample "S" well at one end for adding drops from the buffer solution. Add five (5) drops of sample to the well of the HHA using the dropper bottle, then seal the bottle with its cap.
F. Begin timing as soon as the fifth drop is placed in the well. Read the HHA at 15 minutes. Reading the assay before or after the 15 minutes can give a false reading.

G. The HHA has control "C" and test "T" windows. If a pink or red line develops in both the "C" and "T" windows, the test is considered "positive." If a pink or red line develops in only the "C" window, the test is considered "negative." If a pink or red line does not develop in the "C" window, the test is not valid and must be repeated using a new HHA. NOTE: Count any pink or red line, no matter how faint, as present.
H. Place the HHA, sealed sample buffer bottle (with the swab inside) inside another sealable clean dry plastic bag. Record the results for all HHA samples noting "positive" or "negative", exact location, including room number, where the sample was taken.

4. Interpreting results. The results from the HHA can assist in evaluating the likelihood that a suspicious substance actually contains *Bacillus anthracis*.
5. Confirmatory testing. It is important to develop a plan for obtaining confirmatory testing in advance of using HHA's.
   A. In the U.S., the level B labs of the Laboratory Response Network (LRN) of the CDC can be used for confirmatory testing of environmental substances. NEPMU-5 is such a lab. The state or local public health laboratory may be the LRN "B" lab or will be able to tell you where the nearest one is.
   B. Most Navy medical treatment facility labs are level A and are not equipped to perform testing of environmental substances for anthrax. However, level A laboratories have a level B laboratory identified for referral purposes, and thus should be able to identify an appropriate lab.
   C. OCONUS, identifying a lab for testing may be more difficult. There may be a host nation public health lab capable of confirmatory testing. Contact the nearest Navy clinical lab or NEPMU for assistance identifying a lab capable of confirmatory testing.
   D. Close coordination with law enforcement officials, such as the FBI, NCIS is required.
6. HHA results reporting. Report results of HHA testing immediately to the incident or on-scene commander, whether military or civilian, and to local medical and public health officials.
   A. NEPMU-2 Norfolk, VA: Phone (757) 444-7671; FAX (757) 444-1191; DSN prefix 564-; e-mail nepmu2@nepmu2.med.navy.mil
   B. NEPMU-5 San Diego, CA: Phone (619) 556-7070; FAX (619) 556-7071; DSN prefix 526-; e-mail nepmu5@nepmu5.med.navy.mil
   C. NEPMU-6 Pearl Harbor, HI: Phone (808) 473-0555; FAX (808) 473-2754; DSN prefix 473-; e-mail nepmu6@nepmu6.med.navy.mil
   D. NEPMU-7 Sigonella, Italy: Phone 001-39-095-56-4101; FAX 001-39-095-56-4100; DSN prefix 624-; e-mail nepmu7@nepmu7.sicily.navy.mil

CHAPTER 3

Personal Protection, Collective Protection, Decontamination, Universal Precautions

INDIVIDUAL PROTECTIVE EQUIPMENT (IPE)
Universal precautions and standard uniform clothing afford a reasonable level of protection against most BW agents. Intact skin provides an excellent barrier for biological agents (except T-2 mycotoxins).

Personal protection against a biological agent attack is available in currently fielded military IPE (e.g., M40 chemical protective mask, battle dress overgarment, and protective gloves and overboots made from butyl rubber). Note: The use of a HEPA type filter mask (e.g., N95 filter mask) will be needed for pneumonic plague, smallpox, and many viral hemorrhagic fevers. Refer to the following website for more info on IPE in a bioterrorist environment: http://www.nap.edu/.

COLLECTIVE PROTECTION
The use of IPE is of limited value where greater numbers of medical personnel need to operate together for longer periods of time in a CBRNE environment. Collective Protection systems typically involve a fully functional CBRNE protected zone or unit supplied with both pressurized and filtered air. Use of Collective Protection allows delivery of medical care to continue in any CBRNE contaminated environment. Within a Collective Protective environment, the use of IPE is not required. Collective Protection systems are typically designed to be integral parts of the designated zone or unit's Heating, Ventilation, and Air Conditioning (HVAC) system.

Collective Protection against CBRNE agents employs efficient filtration, systems integrity, and associated control mechanisms. Systems integrity involves use of efficient seals and pressure gradient airflow. Techniques for expedient collective protection are detailed at: http://www.firefighting.com/default.asp?GoTo=namID938.

MISSION ORIENTED PROTECTIVE POSTURES (MOPP) LEVEL
MTF commanders should become familiar with the various levels of MOPP. The MOPP system is designed to be a flexible means of increasing or decreasing levels of personal protection based on an assessment of the actual CBRNE threat encountered.

MOPP levels should be increased when encountering known contamination or before entering an area believed to be contaminated. First responders and other healthcare personnel should always mask if they are in downwind / plume hazard areas, and if detection equipment has not yet been deployed. MOPP levels should not be increased solely on the basis of unconfirmed reports of a BW attack. Important Note: The use of IPE in higher MOPP levels for extended

periods can cause dehydration, heat stress injury, and otherwise degrades the normal efficiency of medical personnel in performing routine tasks (higher MOPP levels impair visibility, mobility, and communication). More information on MOPP levels can be found at: http://www.gulflink.osd.mil/mopp

DECONTAMINATION

Decontamination (decon) of patients infected with biological agents is normally not necessary. However any decon that may be required ideally would take place prior to entry into the MTF. (See Scenario, Consequence Management Phase for more info on when decon of patients may be necessary). However, during a terrorist incident, ambulatory casualties may self-evacuate to the nearest medical facilities. Medical personnel who will be treating patients and who have not been decontaminated need to be wearing IPE.

Prior coordination of decon capabilities and response assets is needed with the Base installation or local fire department and with other local first responder agencies. MTF personnel should be prepared to perform patient decon if any pre-designated decon assets are delayed or unavailable. If patient decontamination is required, it should be performed in a pre-designated location, ideally outside the MTF but near the emergency department. Consideration for special decon arrangements may be needed if difficult weather / temperature conditions are present. The USAMRIID "Bluebook" at: http://www.usamriid.army.mil/education/bluebook.html contains specific decon recommendations and requirements in a BW environment.

UNIVERSAL PRECAUTIONS

Standard universal precautions are adequate for most biological events. Universal precautions involve the use of protective barriers such as gloves, gowns, aprons, masks, or protective eyewear, which can reduce the risk of exposure of the skin or mucous membranes of MTF medical personnel to potentially infective materials caused by biological agents.

Gloves should be worn for touching blood and body fluids requiring universal precautions, mucous membranes, or nonintact skin of all patients, and for handling items or surfaces soiled with blood or body fluids to which universal precautions apply. Gloves should be changed after contact with each patient.

Hands and other skin surfaces should be washed immediately or as soon as patient safety permits if contaminated with blood or body fluids requiring universal precautions. Hands should be washed immediately after gloves are removed.

Masks and protective eyewear or face shields should be worn by MTF medical personnel to prevent exposure of mucous membranes of the mouth, nose, and eyes during procedures that are likely to generate droplets of blood or body fluids requiring universal precautions. Gowns or aprons should be worn during procedures that are likely to generate splashes of blood or body fluids requiring universal precautions.

General infection control practices include the use of gloves for digital examination of mucous membranes and endotracheal suctioning, handwashing after exposure to saliva, and minimizing the need for emergency mouth-to-mouth resuscitation by making mouthpieces and other ventilation devices available for use in areas where the need for resuscitation is predictable. More info on universal precautions can be obtained at: http://www.cdc.gov/ncidod/HIP/blood/universa.htm

PPE Local Decision

The onscene commander and infection control officer or infectious disease advisor best determines the appropriate level of personal protection. The local environment, threat analysis, personal vulnerability and working conditions will determine if a level of personal protection beyond universal precautions is appropriate.

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CHAPTER 4

A Plague on Your City: Observations from TOPOFF

Selected Lessons Learned from TOPOFF by:
Thomas Inglesby, MD, Rita Grossman, Tara O'Toole, MD, MPH
(Johns Hopkins University Center for Civilian Biodefense Studies)

In FY 1997, DoD received $36 million to initiate the Domestic Preparedness Program (Weapons of Mass Destruction Act, commonly referred to as the Nunn-Lugar-Domenici Act), to enhance existing first responder training in terrorist incidents involving radiological, nuclear, chemical and biological weapons. The program is intended to train fire, law enforcement, hazardous materials, and emergency medical personnel in the 120 largest U.S. cities. The relevant personnel undergo one week of training, comprised of six separate courses.

Subsequently the U.S. Congress directed the Department of Justice to conduct an exercise engaging key government personnel in the management of mock chemical, biological, or cyber terrorist attacks. The resulting exercise was called TOPOFF; the name stems from the engagement of top officials of the U.S. government. TOPOFF was a $3 million dollar drill testing the readiness of top government officials to respond to terrorist attacks at multiple geographic locations. It was the largest exercise of its kind to date.

The bioterrorism portion of the exercise took place in May 2000 in Denver, CO. The bioterrorism agent release involved an aerosol of *Yersinia pestis*, the bacteria that causes plague. Denver was selected in part because it had already received federal funding from the Domestic Preparedness Program (Weapons of Mass Destruction Act) for training and equipment.

TOPOFF was widely considered a success – it provided the most comprehensive effort to date to test the medical and public health system and infrastructure that would be called upon in the event of a bioterrorist event.

Communications and Complexity of the Decision-Making Process

With the involvement of multiple levels of government, the decision-making process proved inadequate and slow. Communication difficulties between the command centers and key individuals crippled elements of the operation. Multiple conference calls distracted key individuals from more pressing issues. Heavy reliance on using conference calls in an attempt to get consensus was not a practical solution.

Multiple communications systems caused havoc, as many of the systems were not inter-operable. Hand held radios on the same frequency appeared to be the best answer. Phones,

faxes, and cell phones were used heavily but were found to be inefficient as a great amount of time was spent seeking correct phone numbers.

The most important aspect of leadership in this type of event is unified command. The time required for the consensus decision-making process illustrated the pressing need to make decisions and implement those decisions on short notice.

Therapeutic Priorities and Antibiotic Distribution Mechanisms
The surveillance process is critically important in this time of crisis. Treatment and prophylaxis are dependent upon the ability to identify the pathogen / agent as soon as possible and to set the priority for whom to treat. Antibiotic supplies are quickly depleted and priorities must be established quickly to target the right group of first responders and health care workers.

By the termination of the exercise, at least 11 states were reporting cases of pneumonic plague and some were demanding that they be given antibiotics from the National Pharmaceutical Stock (NPS), a national repository of pharmaceuticals and medical materiel developed and maintained by the CDC. NPS supplies are bundled into "Push-Packs" that can be deployed by commercial cargo to a scene of a biological or chemical weapons attack within 12 hours of request by a state. Materiel in these packages consists of antibiotics, IV supplies, ventilators, bandages and dressings, and vaccine supplies. Important Note: Only state and federal authorities can formally request NPS – such assistance cannot be requested directly by the MTF commander. Please note also that technical assistance personnel accompany NPS Push Packs only – NPS has no dedicated support personnel to help secure, distribute, transport, or apply the mass prophylaxis.

When other states began to report cases, Denver was told by HHS authorities that no further antibiotic Push-Packs would be available, and that the city would need to go to the "Vendor Managed Inventory (VMI)" system. How rapidly the VMI system would have delivered the large quantities of antibiotics Denver was seeking was not clear and was not tested.

Vendor Managed Inventory (VMI) is the second component of the NPS. Under VMI, antibiotics are to be shipped from pharmaceutical manufacturers to the site of an epidemic following an act of bioterrorism within 24 to 36 hours. This part of the NPS program is still in development.

The Crises at Health Care Facilities
Healthcare facilities were quickly seeing double to 10 times their normal patient load. Recently closed hospitals and clinics may need to be reopened. The worried well have the capability to quickly overwhelm the healthcare system. It has been estimated that for every 2-3 patients there will be 10 worried well. Even though the worried well will need no actual treatment, they will need social workers, chaplains, and others to help resolve their anxiety and keep them from detracting the healthcare workers.

By the end of the exercise, one hospital had (notionally) seen an incredible 3,878 persons since the beginning of the exercise only a few days earlier. Of these, some 3,200 were "worried well." TOPOFF did not address how health care facilities would distinguish between the uninfected "worried well," those with incubating or early symptoms of plague, and those suffering from other illnesses.

Security will be a major topic of great concern. Many patients will present themselves to the healthcare facility and may become unruly if not handled promptly. The concept of a "security lock down" was discussed, wherein all entrances to the hospital would be locked and guarded to keep people out. One hospital official expressed serious doubts that such control would ever really be possible in her facility, which was not designed with this capability.

Antibiotic supplies were a serious problem for the hospitals. Reliance on state and federal stockpiles or on the inventory of local area pharmacies proved unworkable. One participant said that the state replied that, in essence, hospitals were on their own regarding antibiotics. One hospital official noted: "medical and public health workers and first responders need to feel safe and need to have their families feel safe or they won't show up." But hospitals did not generally have sufficient stock to prophylax their own staff, let alone their patients.

A number of other serious problems were catalogued: "There were not enough places to put sick people, triage people, put dead bodies." Hospitals were competing for a limited supply of ventilators. It was not clear which health care workers should be wearing personal protective equipment or what form of protection was appropriate.

Need to Develop Principles of Disease Containment

Early in the crisis antibiotic prophylaxis and isolation of individual patients in hospitals were the primary epidemic containment measures. Less than a full day into the exercise the epidemic was rapidly spreading – long before health authorities had sufficient time to characterize the common source of the outbreak, the rate of secondary transmission, the response to antibiotics, or the results of other containment measures.

As part of the travel advisory persons were advised to stay home unless they were close contacts of diagnosed cases or were feeling sick, in which case they were directed to seek medical care. As one observer noted: "They told 1 million people to stay in their homes. How would we have enforced this?"

Throughout the unfolding epidemic, determining what information the public should be given and how quickly was an important and difficult issue. "Should we tell people there is a terrorist link? Should we tell them that people are sick?" One suggestion considered announcing to the public that this was like "The 1918 influenza epidemic." It was clear that the public message itself would affect the capacity to control the epidemic, in that worried or panicked people may not seek the care they needed or, alternatively, might dangerously crowd health care facilities.

Quarantine - A number of senior observers said that recommendations for quarantine were made without sufficient consideration of the wide variety of ramifications. "With borders closed, how were we planning to feed 4 million people? Many of the control measures ordered were delusional." When asked what would be possible if the situation actually required a quarantine, the police and National Guard responded to the Expert Committee that they would be unable to keep people at home.

Another participant commented that by the end of the exercise, "people had been asked to stay in their homes for 72 hours…How were they supposed to get food or medicine?"

Sometime into the exercise (notional) civil unrest broke out. Stores were closed and deliveries into the area were secured. Food and public supplies ran low, leading to (notional) rioting. Gridlock occurred around the city, including around health care facilities. Snowplows were proposed as a way of clearing the road of cars. Given the constraints of the exercise, it was not possible to gauge the true extent of social disorder that a bioterrorist attack might evoke; but most observers and participants agreed that serious civil disruption would be a genuine risk in such a crisis.

There were ominous signs at the end of the exercise. Disease had already spread to other counties and states. Competition between cities for the NPS caches of pharmaceuticals had already broken out. It had all of the [characteristics] of an epidemic out of control."

Conclusions

- With the systems now in place, it would be almost impossible to contain a bioterrorism attack
- Leadership and decision making must be developed and in place prior to a bioterrorism attack.
- Scarce resources must be preserved - Healthcare operations may be overwhelmed within 24-48 hours of attack - Antibiotics must be controlled and used where most efficacious
- Healthcare treatment facilities must be protected from contamination and all available health sites must have the potential to be utilized
- Urgent need to formulate clear, scientifically and politically sound principles for containment of highly contagious disease outbreaks
- Ability to effectively communicate between healthcare leadership and various agencies is essential to the success of this type of endeavor - Radios using same frequency are probably the best alternative

APPENDIX A

Funding Considerations:
BW Preparedness and Response

There are three ways for MTF commanders to obtain funding for BW preparedness and response activities:

- **Program Objective Memorandum (POM) cycle**
- **Business Case Analysis (BCA)**
- **Mid Year Review Process**

POM cycle:
MTF Commanders can plan and program for long-term CBRNE preparedness and response activities at their facilities using the Program Objective Memorandum (POM) cycle process. Individual MTF activity issues related to CBRNE preparedness and response need to be submitted in the December / January timeframe each year to meet POM cycle requirements. Contact BUMED (either MED-01 or the MED-02 CBRNE Program Manager) for a sample of a CBRNE disaster preparedness POM item.

BCA:
MTF planning efforts to acquire resources for CBRNE medical disaster preparedness and response prior to the next POM cycle may also take place through the BCA process. BCA is intended to provide an avenue for medical activities to justify resources for a new unbudgeted initiative, with actions (if not assets) under local control, when that initiative has documented and quantifiable benefits (cost avoidance, savings, efficiencies) or a "return on investment" in future years. Contact BUMED (MED-01) to reach the POCs responsible for the BCA review process. These POCs can assist MTFs with the preparation and submittal requirements for a BCA package.

Mid Year Review:
Finally, MTF Commanders have the mid-year review process to request current year resources or unfunded items. A mid-year review item may be submitted either "before the fact" or "after the fact." In the first case, the MTF is faced with an emergent, additional requirement for disaster preparedness, or a response to an external threat. In the second case, the disaster has already happened, and the MTF documents the actual, fact-of-life costs that were expended in response to it. The MTF's true unfunded category then becomes those resources that had to be diverted in order to pay for the disaster. Mid-year review guidance will be issued to all MTFs through their Healthcare Support Offices by MED-01. To obtain a sample of a mid-year review submitted for an unfunded item, contact Mr. Charles Martin, (MED-11) at 202-762-3588.

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APPENDIX B

CDC BioAgent Media Fact Sheets

Bacterial Agents:

ANTHRAX

Biological Weapon
Several nations are believed to have offensive biological weapons programs capable of producing and weaponizing anthrax. Iraq has acknowledged producing and weaponizing anthrax. Experts believe that the manufacture of a lethal anthrax aerosol is beyond the capacity of individuals or groups without access to advanced biotechnology. In 1979 an accidental aerosolized release of anthrax in the former Soviet Union resulted in at least 79 cases of anthrax infection and 68 deaths. An estimate of cases and deaths following the theoretical aircraft release of anthrax over an urban population predicts millions of deaths.

The Disease
Anthrax is an acute infectious disease caused by the spore-forming bacterium *Bacillus anthracis*. Anthrax most commonly occurs in warm-blooded animals, but can also infect humans.

Symptoms of disease vary depending on how the disease was contracted, but symptoms usually occur within seven days. Initial symptoms of inhalation anthrax infection may resemble a common cold. After several days, the symptoms may progress to severe breathing problems and shock. Inhalation anthrax usually results in death in 1-2 days after onset of the acute symptoms.

The intestinal disease form of anthrax may follow the consumption of contaminated meat and is characterized by an acute inflammation of the intestinal tract. Initial signs of nausea, loss of appetite, vomiting, fever are followed by abdominal pain, vomiting of blood, and severe diarrhea. Intestinal anthrax results in death in 25% to 60% of cases.

The Risk
Although anthrax can be found globally, it is more often a risk in countries with less standardized and effective public health programs. Areas currently listed as high risk are South and Central America, Southern and Eastern Europe, Asia, Africa, the Caribbean, and the Middle East. Direct person-to-person spread of anthrax most likely does not occur.

CDC Media Fact Sheets are provided for local MTF use as desired. They may be modified to fit local population and PAO use. Updates may be obtained at http://www.cdc.gov/publications.htm

Early diagnosis of inhalation anthrax would be difficult and would require a high index of suspicion. The first evidence of a clandestine release of anthrax as a biological weapon most likely will be a patient seeking medical treatment for symptoms of inhalation anthrax. There is no need to immunize or treat patient contacts (e.g., household contacts, friends, coworkers) of a patient, unless they were also exposed to the aerosol at the time of the attack.

Treatment

Anthrax is diagnosed by isolating *B. anthracis* from the blood, skin lesions, or respiratory secretions or by measuring specific antibodies in the blood of suspected cases. Given the rapid course of symptomatic inhalation anthrax, early antibiotic use is essential. A delay, even in hours, may lessen chances for survival. For those treated with antibiotics and survive, the risk of recurrence remains for at least 60 days.

Doctors can prescribe effective antibiotics. Usually penicillin is preferred, but ciprofloxacin, doxycycline, erythromycin, tetracycline, or chloramphenicol can also be used. To be effective, treatment should be initiated early. If left untreated, the disease can be fatal.

The anthrax vaccine for humans licensed for use in the United States is a cell-free filtrate vaccine, which means it uses dead bacteria as opposed to live bacteria. The vaccine is reported to be 93% effective in protecting against cutaneous anthrax. The anthrax vaccine was developed and is manufactured and distributed by the Michigan Biologic Products Institute, Lansing, Michigan. (Anthrax vaccines intended for use in animals should not be used in humans.) The vaccine should only be administered to healthy men and women from 18 to 65 years of age.

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PLAGUE

Biological Weapon
A weapon designed to aerosolize the plague bacterium could cause a rapidly severe and fatal disease in exposed persons. The *Yersinia pestis*, the causative agent of plague, is found in rodents and their fleas in many areas around the world, and can be grown in large quantities and disseminated by aerosol, the result could be an epidemic of the pneumonic form with the potential for secondary spread of cases. A bioterrorism attack would be characterized by pneumonic cases occurring simultaneously in persons 1 to 6 days following a common exposure, and in a secondary wave in unprotected case contacts. There are no effective environmental warning systems to detect an aerosol of plague bacilli.

The Disease
Although pneumonic plague is an uncommon form of the disease, large outbreaks of pneumonic plague have occurred. The patient typically experiences fever, prostration and rapidly developing pneumonic plague (shortness of breath, chest pain, and cough), often accompanied by gastrointestinal symptoms (nausea, vomiting, abdominal pain and diarrhea).

The first signs of illness would be expected to be fever, headache, weakness and cough with bloody, sometimes watery sputum. In 2 to 4 days the illness would lead to septic shock and without early treatment high mortality. Before antibiotic treatment, nearly 100 percent of cases were reported to be fatal.

A pneumonic plague outbreak would initially resemble an outbreak of other severe respiratory illnesses, but would quickly be distinguished by the rapid development of life threatening respiratory failure, sepsis, and shock. Antibiotics need to be given within 24 hours of first symptoms to prevent high mortality.

The Risk
Primary pneumonic plague results from the inhalation of plague bacilli. Person-to-person transmission of pneumonic plague occurs through respiratory droplets, which can only infect those who have direct and close (within 6 feet) exposures to the ill patient. *Yersinia pestis* is very sensitive to the action of sunlight and does not survive long outside the host. Research suggests it may survive in the exposed environment for up to one hour.

Immediate notification of suspected plague to local or state health departments is essential for rapid investigation and control activities. Confirmatory testing for *Yersinia pestis* usually takes from 24 to 48 hours; presumptive identification by fluorescent antibody testing takes less than 2 hours.

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Few physicians in the United States have ever seen a case of pneumonic plague. Vaccine against plague does not prevent the development of primary pneumonic plague, and is not presently available in the U.S. The fatality rate of patients when treatment is delayed more than 24 hours after symptom onset is extremely high.

Treatment

Early treatment and prophylaxis with streptomycin or gentamicin antibiotics, or the tetracycline or fluoroquinolone classes of antimicrobials are advised. In a community experiencing a pneumonic plague epidemic, all persons who develop a fever or new cough should promptly begin antibiotic treatment. Persons having household, hospital, or other close contact with persons with untreated pneumonic plague should receive postexposure antibiotic treatment for 7 days. (Close contact is defined as contact with a patient at less than 2 meters.).

CDC Media Fact Sheets are provided for local MTF use as desired. They may be modified to fit local population and PAO use. Updates may be obtained at http://www.cdc.gov/publications.htm

Viral Agents

SMALLPOX

Biological Weapon
Smallpox was eradicated from the world in 1977. In 1980, the World Health Assembly recommended that all countries cease vaccination and that all laboratories destroy their stocks of variola (smallpox) virus or transfer them to one of two World Health Organization reference labs. All countries reported compliance.

The United States cannot, with complete certainty, verify that the virus is not being held in places other than the two WHO reference laboratories; therefore, the deliberate reintroduction of smallpox is regarded as a possibility. Because this virus is relatively stable (not easily destroyed in the environment) and the infectious dose is small, an aerosol release of variola virus would disseminate widely.

A single suspected case of smallpox would be treated as a health emergency and should be brought to the attention of national officials through local and state health authorities. However, varicella, or chickenpox, which infects millions of children each year in the United States, is the disease most frequently confused with smallpox. (Chickenpox lesions are much more superficial and are almost never found on the palms and soles.)

The Disease
Variola virus belongs to a group of virus known as the *Orthopoxviruses*, four of which can infect humans: they include smallpox chickenpox, monkeypox, and cowpox Smallpox outbreaks involve either variola minor or the more deadly variola major. Case fatality rates range from 1 to 20 percent.

Lesions in the mouth and throat that ulcerate quickly release large amounts of virus in the saliva. The most visible system is a rash with lesions most dense on the face, arms and legs. The lesions are round, tense and deeply embedded in the skin, appear during a 1- to 2-day period and evolve at the same rate on the body. Lesions begin to form crusts about the eighth or ninth day.

Deaths usually occur late in the first week or the second week of illness. The incubation period is about 12 days (range: 7 to 17 days). Symptoms include high fever, fatigue and head and backaches followed by the rash. Two less well-known types of smallpox disease are hemorrhagic and malignant and health care providers seldom recognized them as smallpox unless an outbreak was in progress.

The Risk
Smallpox is spread, most often, by a person who is ill releasing droplets from the mouth into the air that are inhaled by a susceptible person in close contact with the ill person. Virus titers in saliva were highest during the first week of illness. Disease is most often transmitted from the time the ill person appears with a rash and throughout the first week of illness. Virus is also present in the scabs that separate from the skin.

Routine vaccination against smallpox stopped in 1972 and few persons younger than 28 years of age have been vaccinated. Also, the level of immunity among persons older than 28 in the United States is uncertain. The duration of immunity has not been well measured. It must be assumed that the population at large is highly susceptible to infection.

The United States has a limited supply, approximately 15 million doses, of smallpox vaccine available for emergency use, if needed. No preventive vaccination program to protect populations such as health care workers is planned at this time.

Treatment
Current vaccine against smallpox is made with vaccinia, or cowpox, virus. New methods of producing smallpox vaccine in large quantities are being explored, including tissue cell culture vaccine. Patients infected with smallpox would be offered supportive therapy plus antibiotics as indicated for secondary bacterial infections. No antivirals have yet proved effective for treating smallpox; however, research continues.

A smallpox outbreak would spread unless checked by vaccination and / or isolation of patients and their close contacts. All individuals in who smallpox is suspected should be vaccinated and placed under health monitoring. Vaccination administered within 4 days of first exposure has been shown to offer some protection against acquiring infection and good protection against a fatal case.

Biological Toxins

BOTULINUM

Biological Weapon
Botulism toxin is the most potent lethal substance known to man (lethal dose 1ng / kg). Botulism toxin is made by the bacterium *Clostridium botulinum*. Botulinum toxin was developed as an aerosol weapon by several countries. No human data exist on the effects inhaling botulinum toxin, but it may resemble the foodborne syndrome.

If people have intentionally been exposed in a bioterrorist attack, breathing in the toxin or ingesting the toxin via contaminated food or water are the most likely routes of exposure that might lead to a serious illness (foodborne botulism). Spores of C. botulinum are found in soil worldwide. Terrorists with the technical capacity to grow cultures of the bacterium, and harvest and purify the toxin could therefore use it as a bioterrorism agent. Contaminating food with botulism toxin could cause a devastating event.

The Disease
About 25 cases of foodborne botulism occur each year, usually due to improperly prepared home-canned or Alaskan Native foods. Outbreaks from commercial products and foods prepared improperly in restaurants have also occurred. The toxin types most commonly associated with human disease are types A, B, E. Botulism is a muscle paralyzing disease caused by a nerve toxin that is made by a bacterium called Clostridium botulinum.

Of the three main kinds of botulism (infant, foodborne, and wound), only foodborne botulism is a public health emergency, because it could indicate that a tainted food product is still available to other persons (besides the patient). Foodborne Botulism occurs when a person ingests pre-formed toxin that leads to illness within a few hours to days.

Symptoms of botulism include double vision, blurred vision, drooping eyelids, slurred speech, difficulty swallowing, dry mouth, muscle weakness which always descends the body: first the shoulders, then upper arms, then lower arms, then thigh, calves, etc. Paralysis of breathing muscles can cause a person to stop breathing and die, unless he/she is assisted by a ventilator.

For foodborne botulism, symptoms begin from six hours up to two weeks after eating toxin-containing food; most commonly the delay is about 12-36 hours. Infants with botulism appear lethargic, feed poorly, are constipated, and have a weak cry and muscle tone.

The Risk
Foodborne botulism can occur in all age groups. Botulism is not spread person-to-person. Botulism can result in death due to respiratory failure if appropriate medical care is not

available. However, in the past 50 years the proportion of patients with botulism who die has fallen from about 50% to 8% because of improved medical care in intensive care units.

Treatment
CDC maintains the national botulism anti-toxin supply. A physician diagnosing a case of botulism and wishing to treat the patient with anti-toxin must contact the CDC through their state health department. In this way, public health officials are alerted immediately about potential cases of botulism.

CDC provides clinical consultation to physicians for botulism cases 24 hours a day, and ships botulism antitoxin when needed. If symptoms occur, individuals should seek treatment. Botulism can be fatal and should be considered a medical emergency.

The paralysis and respiratory failure that occur with botulism may require a patient to be on a breathing machine (ventilator) for weeks, plus intensive medical and nursing care. The paralysis slowly improves, usually over several weeks. If diagnosed early, foodborne and wound botulism can be treated with an antitoxin from horse serum which blocks the action of toxin circulating in the blood. This can prevent patients from worsening, but recovery still may take many weeks.

**** Note:**
Media Fact Sheets were developed by the Centers for Disease Control and Prevention (CDC). CDC authorizes reuse or reproduction of this material.

CDC Media Fact Sheets are provided for local MTF use as desired. They may be modified to fit local population and PAO use. Updates may be obtained at http://www.cdc.gov/publications.htm

APPENDIX C

BW Resource List and Recent Publications

DoD / Federal Emergency Response Agencies:

Emergency Support Operations Center, DSCP (215) 737-2112 (24 hrs)
CDC - Emergency Response Office (770) 488-7100 or (800) 311-3435 (24 hrs).
USAMRIID Emergency Response Line (888) 872-7443 (24 hrs)
National Response Center (800) 424-8802 (24 hrs)
Edgewood Operations Center - Aberdeen, MD. (410) 436-4484 (24 hrs)
FBI (contact nearest field office to MTF).
For OCONUS, call U.S. Embassy / Consulate (U.S. Dept of State is Lead Agency)
Domestic Preparedness Helpline: 1-800-368-6498 (24 hrs)

Laboratory Assistance

CDC laboratories (404) 639-2888
USAMRIID laboratory (888) 872-7443

Military Response Assets, Presidential Directives, DoD Instructions:

Emergency Support Operations Center, Defense Supply Center Philadelphia.

- After initial notification is made, the ESOC offers a 24-48 hour reach back capability for transportation of CBRNE prophylaxis and supplies. The ESOC website is at: http://www.dscp.dla.mil/

USAMRIID. http://www.usamriid.army.mil/education/bluebook.html

- The USAMRIID "Bluebook" details specific information dealing with any BW event. Provides info on BW agents, IPE, collective protection, and decon requirements.

Presidential Decision Directive 39 (PDD 39). White House. June 1995. The PDD 39 website is found at: http://www.fas.org/irp/offdocs/pdd39.htm

- Gives U.S. Policy on Counter-Terrorism and outlines Lead Federal Agency roles for crisis management and consequence management efforts during a declared emergency.

Military Support To Civil Authorities (MSCA). DODD 3025.1. This and other DoD Directives and Instructions are available at http://web7.whs.osd.mil/.

- Provides MTF Commanders with authority to provide "Immediate Response" actions

National Guard WMD Civil Support Teams. National Guard WMD Civil Support Teams article:"Defense Leaders Commentary: The facts on WMD Civil Support Teams" Armed Forces Press Service. Charles Cragin, Principal Deputy, ASD Reserve Affairs. April 6, 2000.

- Provides a description of mission and current listing (August 2000) of the 27 National Guard WMD CSTs located in the following states: Alaska; Arizona; Arkansas; California (2); Colorado; Florida; Georgia; Hawaii; Illinois; Idaho; Iowa; Kentucky; Louisiana; Maine; Massachusetts; Minnesota; Missouri; New Mexico; New York; Ohio; Oklahoma; Pennsylvania; South Carolina; Texas; Virginia; and Washington. (Tentative plans include adding up to 5 more teams by 2002). Important Note: These state National Guard WMD CSTs are deployed only after a declaration of emergency assistance and specific request by the state governor – MTF commanders cannot directly request the support of these unique state response teams.

Other Federal Emergency Response Agencies and Information:

National Domestic Preparedness Office website: http://www.ndpo.gov
- Source for BW response template used for medical surveillance

Federal Response Plan (FRP) at: (http://www.fema.gov/r-n-r/frp/frpbpln.htm)

Federal Emergency Management Agency (FEMA) website at: http://www.fema.gov
- Identifies FEMA as Lead Federal Agency for Consequence Management. Provides information on implementation of the FRP and its potential impact on the MTF during a CBRNE event. Gives the responsibilities of the Emergency Support Functions (ESF) listed by each federal agency as outlined in the FRP.

Environmental Protection Agency (EPA) website: http://epa.gov
- Provides information on EPA response capabilities

Centers for Disease Control and Prevention (CDC) website: http://cdc.gov
- Provides information on BW agent identification and critical protocols
- The Laboratory Response Network (LRN) website: http://www.bt.cdc.gov/
- Smallpox response plan and guidance from CDC: http://www.bt.cdc.gov/DocumentsApp/Smallpox/RPG/index.asp

National Disaster Medical System (NDMS). Disaster and emergency response capabilities of NDMS are found at: http://ndms.dhhs.gov
- Explains the roles of various NDMS response teams (e.g., teams for medical response, mortuary assistance, etc.) and the oversight role of NDMS from the Office of Emergency Preparedness (OEP) and U.S. Public Health Service

BUMED information:

BUMED and NEHC subject matter experts developed a WMD preparedness and response resource tool available on CD-ROM. The CD covers an exhaustive listing of Disaster Preparedness, Terrorism and WMD resources current as of April 2001. The listed resources on CD are also available on the BUMED (MED-27) homepage at: https://bumed.med.navy.mil/MED27/

- The CD was first developed for the Surgeon General's Flag Day Bioterrorism Wargame "Attack on Onslow" (August 2000). The CD and MED-27 homepage link will contain a number of new and updated features and made available in May 2001

BUMEDINST 3440.4 Activity Disaster Preparedness Plans and Material for Disaster Preparedness Teams at: http://navymedicine.med.navy.mil/instructions/external/external.htm

- Outlines basic requirements for disaster and emergency preparedness activities at MTFs (this instruction is being completely revised and updated)

State and Local Information:

State and Local Guide for All-Hazards Emergency Operations Planning. FEMA. Emmitsburg, MD. 1996. Available at: http://www.fema.gov/library/allhzpln.htm.

- Most comprehensive FEMA guide available covering entire spectrum of preparedness and response for all CBRNE events

Statewide Disaster Medical Standards Development Project: Final Report. California Emergency Medical Services Authority. August 2000. Available at: http://www.mvemsa.com/Final%20DMS%20Report.htm.

- Important look at how California provides disaster response

Improving Local and State Agency Response to Terrorist Incidents Involving Biological Weapons – Interim Planning Guidelines. Soldier's Biological and Chemical Command, Domestic Preparedness Program, Sep 2000, available at: http://www2.sbccom.army.mil/hld/bwirp/bwirp_interim_planning_guide_download.htm

- Excellent source for preparedness and planning for CBRNE events

Joint Commission on Accreditation of Healthcare Organizations:

New JCAHO Standards for 2001: EC 1.6. Emergency Management website: http://www.jcaho.org/standards_frm.html

- Effective 01 Jan 2001, JCAHO establishes new standards for emergency management (Environment of Care - EC standards)

American Hospital Association (AHA):

AHA, with support of Office of Emergency Preparedness (OEP) and Dept of Health and Human Services (DHHS) produced the document "Hospital Preparedness for Mass Casualties - Final Report August 2000".

- Provides AHA recommendations for mass casualty events at hospitals

Individual Protective Equipment (IPE), Collective Protection, Decontamination, Mission Oriented Protective Posture (MOPP), and Universal Precautions websites:

IPE in a bioterrorist environment is at: http://www.nap.edu/html/terrorism/ch3.html.

- Provides excellent overview of the OSHA requirements used in civilian environment. Explains the differences between OSHA levels of protection and military IPE protection

Techniques for expedient collective protection, personal protection, and evacuation at: http://www.firefighting.com/default.asp?GoTo=namID938.

- Offers good overview of collective protection requirements, including options for evacuation, shelter-in place, and protective shelter in any CBRNE environment

The USAMRIID "Bluebook" at: http://www.usamriid.army.mil/education/bluebook.html

- Best military source for IPE, collective protection, and decon requirements

Universal precautions from CDC at: http://www.cdc.gov/ncidod/HIP/blood/universa.htm

- CDC specific recommendations for universal precautions

Mission Oriented Protective Posture (MOPP) at: http://www.gulflink.osd.mil/mopp

- Explains the military MOPP levels for use in any CBRNE environment

BW EDUCATION / TRAINING INFORMATION

Note: For a comprehensive listing of CBRNE training / education courses available from various federal government sources go to the following website: http://www.ndpo.gov/compenium.pdf

USAMRIID / CDC / Office of the Army Surgeon General:

Biological Warfare and Terrorism – The Medical and Public Health Response.
(401)436-2230
Medical Management of Biological Casualties.

USAMRICD *(410) 436-2230:*

Field Management of Chemical and Biological Casualties.

US Army Chemical School *(573) 563-7257:*

Chemical / Biological Countermeasures Training (CBCT).

National Interagency Civil-Military Institute *(805) 782-6739*

Community Response Emergency Simulation Training (CREST).
Preparing for and Managing Consequences of Terrorism.

SBCCOM *(800) 368-6498*:

NBC Domestic Preparedness - Basic Awareness.
NBC Domestic Preparedness - Incident Command.
NBC Domestic Preparedness - Senior Officers / Officials.

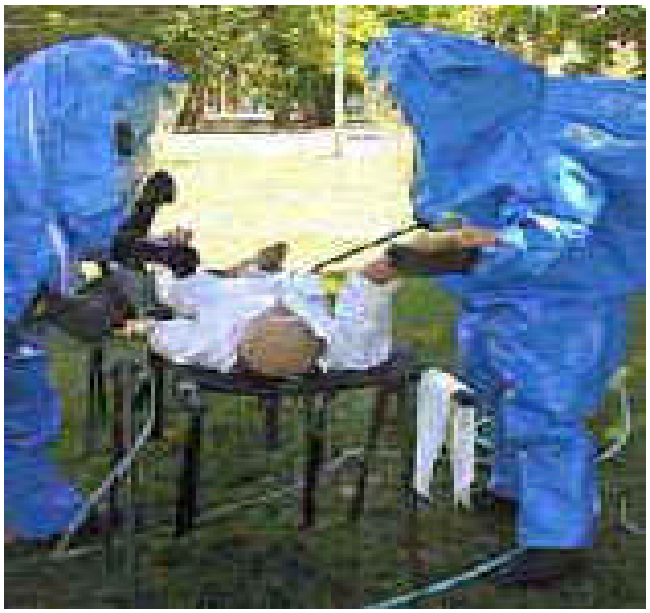
FEMA / Emergency Management Institute / National Fire Academy*:*

Emergency Management Information System (EMIS). (800) 238-3358
Emergency Planners Companion (CD-ROMs). (202) 646-2734
Personal Protective Equipment (video). (202) 646-2734
Incident Command System / Emergency Operations Center (ICS / EOP). (301) 447-1249
Integrated Emergency Management: Consequences of Terrorism. (501) 447-1249
Mass Fatalities Incident. (301)447-1249
Emergency Response to Terrorism:Self Study. (301) 447-1060

DoD Emergency Preparedness Course. *Further information available at FEMA's website:*
http://www.fema.gov/pte/

NEHC / NEPMUs. Currently offer 1 and 3 day courses in BW. Call NEHC at (757) 462-5404 / 2178 or call the nearest NEPMU:

NEPMU-2	Norfolk, VA	(757) 444-7671 X 306, DSN: 564
NEPMU-5	San Diego,CA	(619) 556-7070, DSN: 526
NEPMU-6	Pearl Harbor, HI	(808) 473-0555, DSN: 473
NEPMU-7	Sigonella, IT	011- 39-095-56-3783



Recent Publications on Bioterrorism:

Tularemia as a Biological Weapon: Medical and Public Health Management. David T. Dennis, MD, MPH; Thomas V. Inglesby, MD; Donald A. Henderson, MD, MPH; John G. Bartlett, MD; Michael S. Ascher, MD; Edward Eitzen, MD, MPH; Anne D. Fine, MD; Arthur M. Friedlander, MD; Jerome Hauer, MHS; Marcelle Layton, MD; Scott R. Lillibridge, MD; Joseph E. McDade, PhD; Michael T. Osterholm, PhD, MPH; Tara O'Toole, MD, MPH; Gerald Parker, PhD, DVM; Trish M. Perl, MD, MSc; Philip K. Russell, MD; Kevin Tona, DrPH, MPH; for the Working Group on Civilian Biodefense. JAMA / volume:285 (page: 2763), June 6, 2001.

Botulinum Toxin as a Biological Weapon: Medical and Public Health Management. Stephen S. Arnon, MD; Robert Schechter, MD; Thomas V. Inglesby, MD; Donald A. Henderson, MD, MPH; John G. Bartlett, MD; Michael S. Ascher, MD; Edward Eitzen, MD, MPH; Anne D. Fine, MD; Jerome Hauer, MPH; Marcelle Layton, MD; Scott Lillibridge, MD; Michael T. Osterholm, PhD, MPH; Tara O'Toole, MD, MPH; Gerald Parker, PhD, DVM; Trish M. Perl, MD, MSc; Philip K. Russell, MD; David L. Swerdlow, MD; Kevin Tonat, PhD, MPH; for the Working Group on Civilian Biodefense. JAMA / volume: 285 (page 1059) February 28, 2001.

Plague as a Biological Weapon: Medical and Public Health Management. Thomas V. Inglesby, MD; David T. Dennis, MD, MPH; Donald A. Henderson, MD, MPH; John G. Bartlett, MD; Michael S. Ascher, MD; Edward Eitzen, MD, MPH; Anne D. Fine, MD; Arthur M. Friedlander, MD; Jerome Hauer, MPH; John F. Koerner, MPH, CIH; Marcelle Layton, MD; Joseph McDade, PhD; Michael T. Osterholm, PhD, MPH; Tara O'Toole, MD, MPH; Gerald Parker, PhD, DVM; Trish M. Perl, MD, MSc; Philip K. Russell, MD; Monica Schoch-Spana, PhD; Kevin Tonat, DrPH, MPH; for the Working Group on Civilian Biodefense. JAMA / volume: 283 (page 2281), May 3, 2000.

Domestic Preparedness for Events Involving Weapons of Mass Destruction. Joseph F. Waeckerle, MD. JAMA / volume: 283 (page: 252) January 12, 2000.

Weapons of Mass Destruction Events with Contaminated Casualties: Effective Planning for Health care Facilities. Anthony G. Macintyre, MD; LtCOL George W. Christopher, USAF, MC; COL Edward Eitzen, Jr, MC, USA; LTC Robert Gum, MC, USA; Scott Weir, MD; Craig DeAtley, PA-C; CDR Kevin Tonat, DrPH, MPH, USPHS; Joseph a. Barbera, MD. JAMA / volume: 283 (page 242).

Anthrax as a Biological Weapon: Medical and Public Health Management. Thomas V. Inglesby, MD; Donald A. Henderson, MD, MPH; John G. Bartlett, MD; Michael S. Ascher, MD; Edward Eitzen, MD, MPH; Arthur M. Friedlander, MD; Jerome Hauer, MPH; Joseph McDade, PhD; Michael T. Osterholm, PhD, MPH; Tara O'Toole, MD, MPH; Gerald Parker, PhD, DVM; Trish M. Perl, MD, MSc; Philip K. Russell, MD;

Kevin Tonat, PhD; for the Working Group on Civilian Biodefense. JAMA / volume: 281 (page 1735)

Pavlin, JA. 2000. "Bioterrorism and the importance of the public health laboratory." Military Medicine. 165(7 Suppl 2):25-7.

- Identifies public health laboratories in bioterrorism surveillance, detection, response and provides recommendations for laboratory workers.

Ready or Not-Preparedness for Bioterrorism. .Ali S. Khan, M.D.,M.P.H., David A. Ashford, D.V.M.,D.Sc.,M.P.H.. N Engl J Med, vol. 345, No. 4, July 26, 2001.

Recognition and Management of Anthrax—An Update
Morton N. Swartz, M.D., early release at
http://www.content.nejm.org/cgi/content/abstract/NEJMra012892v1

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FEDERAL BUREAU OF INVESTIGATION FIELD OFFICES

FIELD OFFICE	STREET ADDRESS	ZIP CODE	PHONE No.
Albany, NY	200 McCarty Avenue	12209	518/465-7551
Albuquerque, NM	415 Silver Avenue, SW, Suite 300	87102	505/224-2000
Anchorage, AK	101 E. 6th Avenue	99501	907/258-5322
Atlanta, GA	2635 Century Parkway, NE, Suite 400	30345	404/679-9000
Baltimore, MD	7142 Ambassador Road	21244	410/265-8080
Birmingham, AL	2121 8th Avenue, N., Room 1400	35203	205/326-6166
Boston, MA	One Center Plaza, Suite 600	02108	617/742-5533
Buffalo, NY	One FBI Plaza	14202	716/856-7800
Charlotte, NC	400 S. Tryon Street, Suite 900, Wachovia Blvd.	28285	704/377-9200
Chicago, IL	219 S. Dearborn Street, Room 905	60604	312/431-1333
Cincinnati, OH	550 Main Street, Room 9000	45202	513/421-4310
Cleveland, OH	1240 East 9th Street, Room 3005	44199	216/522-1400
Columbia, SC	151 Westpark Blvd.	29210	803/551-1200
Dallas, TX	1801 N. Lamar, Suite 300	75202	214/720-2200
Denver, CO	1961 Stout Street, Room 1823, FOB	80294	303/629-7171
Detroit, MI	477 Michigan Avenue, P.V. McNamara FOB, 26th Floor	48226	313/965-2323
El Paso, TX	Suite 3000, 660 South Mesa Hills Drive	79912	915/832-5000
Honolulu, HI	300 Ala Moana Blvd., Room 4-230, Kalanianaole FOB	96850	808/521-1411
Houston, TX	2500 East T.C. Jester	77008	713/693-5000
Indianapolis, IN	575 N. Pennsylvania St., Room 679, FOB	46204	317/639-3301
Jackson, MS	100 W. Capitol Street, Suite 1553, FOB	39269	601/948-5000
Jacksonville, FL	7829 Arlington Expy. Suite 200	32211	904/721-1211
Kansas City, MO	1300 Summit Street	64105	816/221-6100
Knoxville, TN	710 Locust Street, Suite 600	37902	423/544-0751
Las Vegas, NV	John Lawrence Bailey Bldg., 700 E. Charleston Blvd.	89104	702/385-1281
Little Rock, AR	10825 Financial Center Pkwy., Suite 200	72211	501/221-9100
Los Angeles, CA	11000 Wilshire Blvd., Suite 1700 FOB	90024	310/477-6565
Louisville, KY	600 Martin Luther King Jr. Pl., Room 500	40202	502/583-3941

Memphis, TN	225 North Humphries Blvd., Suite 3000, Eagle Crest Bldg.	38120	901/747-4300
Miami, FL	16320 NW 2nd Avenue, N. Miami Beach	33169	305/944-9101
Milwaukee, WI	330 E. Kilbourne Avenue, Suite 600	53202	414/276-4684
Minneapolis, MN	111 Washington Avenue South, Suite 1100	55401	612/376-3200
Mobile, AL	One St. Louis Street, 3rd Floor, One St. Louis Centre	36602	334/438-3674
New Haven, CT	150 Court Street, Room 535 FOB	06510	203/777-6311
New Orleans, LA	1250 Poydras Street, Suite 2200	70113	504/522-4671
New York City, NY	26 Federal Plaza, 23rd Floor	10278	212/384-1000
Newark, NJ	One Gateway Center	07102	973/622-5613
Norfolk, VA	150 Corporate Blvd.	23502	757/455-0100
Oklahoma City, OK	50 Penn Place, Suite 1600	73118	405/290-7770
Omaha, NE	10755 Burt Street	68114	402/493-8688
Philadelphia, PA	600 Arch Street, 8th Floor, William J. Green, Jr., FOB	19106	215/418-4000
Phoenix, AZ	201 E. Indianola Avenue, Suite 400	85012	602/279-5511
Pittsburgh, PA	700 Grant Street, Suite 300 USPO	15219	412/471-2000
Portland, OR	1500 S. W. 1st Avenue, Suite 400; Crown Plaza Bldg.	97201	503/224-4181
Richmond, VA	111 Greencourt Road	23228	804/261-1044
Sacramento, CA	4500 Orange Grove Avenue	95841	916/481-9110
Salt Lake City, UT	257 East 200 South, Suite 1200	84111	801/579-1400
San Antonio, TX	615 E. Houston Street, Suite 200; US Post Office & Courthouse Bldg.	78205	210/225-6741
San Diego, CA	9797 Aero Drive	97123	619/565-1255
San Francisco, CA	450 Golden Gate Avenue, 13th Floor	94102	415/553-7400
San Juan, PR	150 Carloa Chardon, Room 526; U. S. Federal Building, Hato Roy, PR	00918	787/754-6000
Seattle, WA	915 Second Avenue, Room 710	98174	206/622-0460
Springfield, IL	400 W. Monroe Street, Suite 400	62704	217/522-9675
St. Louis, MO	2222 Market Street	63103	314/231-4324
Tampa, FL	500 E. Zack Street, Suite 610 FOB	33602	813/273-4566
Washington D. C.	601 4th Street, N. W.	20535	202/278-2000

STATE / TERRITORIAL PUBLIC HEALTH AGENCIES

Alabama
Alabama Department of Public Health
State Health Officer
Phone No. (334) 206-5200
Fax No. (334) 206-2008

Alaska
Division of Public Health
Alaska Department of Health and Social Svcs
Director
Phone No. (907) 465-3090
Fax No. (907) 586-1877

American Samoa
Department of Health
American Samoa Government
Director
Phone No. (684) 633-4606
Fax No. (684) 633-5379

Arizona
Arizona Department of Health Services
Director
Phone No. (602) 542-1025 / (800) 411-2336 (24 hrs)
Fax No. (602) 542-1062

Arkansas
Arkansas Department of Health
Director
Phone No. (501) 661-2417
Fax No. (501) 671-1450

California
California Department of Health Services
State Health Officer
Phone No. (916) 657-1493 / (916) 262-1621 (24 hrs)
Fax No. (916) 657-3089

Colorado
Colorado Department of Public Health & Environment
Executive Director
Phone No. (303) 692-2011
Fax No. (303) 691-7702

Connecticut
Connecticut Department of Public Health
Commissioner
Phone No. (860) 509-7101 / (860) 566-3180 (24 hrs)
Fax No. (860) 509-7111

Delaware
Division of Public Health
Delaware Department of Health and Social Services
Director
Phone No. (302) 739-4700
Fax No. (302) 739-6659

District of Columbia
DC Department of Health
Acting Director
Phone No. (202) 645-5556
Fax No. (202) 645-0526

Florida
Florida Department of Health
Secretary and State Health Officer
Phone No. (850) 487-2945 / (800) 320-0519 (24 hrs)
Fax No. (850) 487-3729

Georgia
Division of Public Health
Georgia Department of Human Resources
Director
Phone No. (404) 657-2700 / (800) 879-4362 (24 hrs)
Fax No. (404) 657-2715

Guam
Department of Public Health & Social Services
Government of Guam
Director of Health
Phone No. (67l) 735-7102
Fax No. (671) 734-5910

Hawaii
Hawaii Department of Health
Director
Phone No. (808) 586-4410
Fax No. (808) 586-4444

Idaho
Division of Health
Idaho Department of Health and Welfare
Administrator
Phone No. (208) 334-5945
Fax No. (208) 334-6581

Illinois
Illinois Department of Public Health
Director of Public Health
Phone No. (217) 782-4977 / (800) 782-7860 (24 hrs)
Fax No. (217) 782-3987

Indiana
Indiana State Department of Health
State Health Commissioner
Phone No. (317) 233-7400
Fax No. (317) 233-7387

Iowa
Iowa Department of Public Health
Director of Public Health
Phone No. (515) 281-5605
Fax No. (515) 281-4958

Kansas
Kansas Department of Health and Environment
Director of Health
Phone No. (785) 296-1343
Fax No. (785) 296-1562

Kentucky
Kentucky Department for Public Health
Commissioner
Phone No. (502) 564-3970
Fax No. (502) 564-6533

Louisiana
Louisiana Department of Health and Hospitals
Asst Secretary and State Health Officer
Phone No. (504) 342-8093 / (225) 342-5470 (24 hrs)
Fax No. (504) 342-8098

Maine
Maine Bureau of Health
Maine Department of Human Services
Director
Phone No. (207) 287-3201 / (800) 452-4664 (24 hrs)
Fax No. (207) 287-4631

Mariana Islands
Department of Public Health & Environmental Services
Commonwealth of the Northern Mariana Islands
Secretary of Health and Environmental Services
Phone No. (670) 234-8950
Fax No. (670) 234-8930

Marshall Islands
Republic of the Marshall Islands
Majuro Hospital
Minister of Health & Environmental Services
Phone No. (692) 625-3355
Fax No. (692) 625-3432

Maryland
Maryland Dept of Health and Mental Hygiene
Secretary
Phone No. (410) 767-6505 / (877) 463-3464 (24 hrs)
Fax No. (410) 767-6489

Massachusetts
Massachusetts Department of Public Health
Commissioner
Phone No. (617) 624-5200
Fax No. (617) 624-5206

Michigan
Community Public Health Agency
Michigan Department of Community Health
Chief Executive and Medical Officer
Phone No. (517) 335-8024
Fax No. (517) 335-9476

Micronesia
Department of Health Services
FSM National Government
Secretary of Health
Phone No. (691) 320-2619
Fax No. (691) 320-5263

Minnesota
Minnesota Department of Health
Commissioner of Health
Phone No. (651) 296-8401
Fax No. (651) 215-5801

Mississippi
Mississippi State Department of Health
State Health Officer and Chief Executive
Phone No. (601) 576-7634 / (601) 576-7400 (24 hrs)
Fax No. (601) 960-7931

Missouri
Missouri Department of Health
Director
Phone No. (573) 751-6001
Fax No. (573) 751-6041

Montana
Montana Department of Public Health & Human Services
Director
Phone No. (406) 444-5622
Fax No. (406) 444-1970

Nebraska
Nebraska Health and Human Services System
Chief Medical Officer
Phone No. (402) 471-8399
Fax No. (402) 471-9449

Nevada
Division of Health
Nevada State Department of Human Resources
State Health Officer
Phone No. (702) 687-3786
Fax No. (702) 687-3859

New Hampshire
New Hampshire Department of Health & Human Services
Medical Director
Phone No. (603) 271-8560 / (603) 271-3636 (24 hrs)
Fax No. (603) 271-4827

New Jersey
New Jersey Department of Health & Senior Services
Commissioner of Health
Phone No. (609) 292-7837
Fax No. (609) 292-0053

New Mexico
New Mexico Department of Health
Secretary
Phone No. (505) 827-2613
Fax No. (505) 827-2530

New York
New York State Department of Health
ESP-Corning Tower, 14th Floor
Albany, NY 12237
Commissioner of Health
Phone No. (518) 474-2011
Fax No. (518) 474-5450

North Carolina
NC Department of Health and Human Services
State Health Director
Phone No. (919) 733-4392 / (800) 858-0368 (24 hrs)
Fax No. (919) 715-4645

North Dakota
North Dakota Department of Health
State Health Officer
Phone No. (701) 328-2372
Fax No. (701) 328-4727

Ohio
Ohio Department of Health
Director of Health
Phone No. (614) 466-2253
Fax No. (614) 644-0085

Oklahoma
Oklahoma State Department of Health
Commissioner of Health
Phone No. (405) 271-4200
Fax No. (405) 271-3431

Oregon
Oregon Health Division
Oregon Department of Human Resources
Administrator
Phone No. (503) 731-4000
Fax No. (503) 731-4078

Palau, Republic of
Ministry of Health
Republic of Palau
Minister of Health
Phone No. (680) 488-2813
Fax No. (680) 488-1211

Pennsylvania
Pennsylvania Department of Health
Secretary of Health
Phone No. (717) 787-6436
Fax No. (717) 787-0191

Puerto Rico
Puerto Rico Department of Health
Secretary of Health
Phone No. (787) 274-7602
Fax No. (787) 250-6547

Rhode Island
Rhode Island Department of Health
Director of Health
Phone No. (401) 277-2231
Fax No. (401) 277-6548

South Carolina
SC Department of Health and Environmental Control
Commissioner
Phone No. (803) 734-4880
Fax No. (803) 734-4620

South Dakota
South Dakota State Department of Health
Secretary of Health
Phone No. (605) 773-3361
Fax No. (605) 773-5683

Tennessee
Tennessee Department of Health
State Health Officer
Phone No. (615) 741-3111
Fax No. (615) 741-2491

Texas
Texas Department of Health
Commissioner of Health
Phone No. (512) 458-7375
Fax No. (512) 458-7477

Utah
Utah Department of Health
Director
Phone No. (801) 538-6111
Fax No. (801) 538-6306

Vermont
Vermont Department of Health
Commissioner
Phone No. (802) 863-7280
Fax No. (802) 865-7754

Virgin Islands
Virgin Islands Department of Health
Commissioner of Health
Phone No. (340) 774-0117; Fax No. (340) 777-4001

Virginia
Virginia Department of Health
State Health Commissioner
Phone No. (800) 523-6019 / (800) 523-6019 / (804) 674-2400 (24 hrs)
Fax No. (804) 786-4616

Washington
Washington State Department of Health
Acting Secretary of Health
Phone No. (360) 753-5871
Fax No. (360) 586-7424

West Virginia
Bureau for Public Health
WV Department of Health & Human Resources
Commissioner of Health
Phone No. (304) 558-2971
Fax No. (304) 558-1035

Wisconsin
Division of Health
Wisconsin Department of Health and Family Services
Administrator
Phone No. (608) 266-1511
Fax No. (608) 267-2832

Wyoming
Wyoming Department of Health
Director
Phone No. (307) 777-7656
Fax No. (307) 777-7439

APPENDIX D

USAMRIID's
MEDICAL MANAGEMENT
OF BIOLOGICAL CASUALTIES
HANDBOOK

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U.S ARMY MEDICAL RESEARCH
INSTITUTE OF INFECTIOUS DISEASES

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